

ANNEX A: STATEMENT OF WORK

1.) TITLE

Four (4) resources to assist with CBSA initiatives such as eManifest and potentially the Beyond the Border initiatives.

2.0 BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

eManifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

The Beyond the Border Action Plan sets out 32 initiatives that forward a perimeter approach to protect the security of Canada and the United States, and strengthen economic competitiveness in both countries by addressing threats early; facilitating trade, economic growth and jobs; integrating cross-border law enforcement; and ensuring there is a critical infrastructure and cyber security.

Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3.0 SCOPE

The Common and Corporate Services Division of the CBSA requires four resources to assist with Commercial initiatives, more particularly with the eManifest initiative with the overall duration projected to be one year with the option to extend one more year. The four (4) resources and their scope are:

- One Technology Architect Level 2, with at least 5 years' experience, to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative.
- One Technology Architect Level 3, with at least 10 years' experience, to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative.
- One Business Architect Level 3, with at least 10 years' experience or 5 years' experience with a recognized professional certification, to analyze the line of business, the processes and procedures in support of the eManifest initiative.
- One Database Analyst Level 3, with at least 10 years' experience, to work on large-scale Data Mining and Dimensional Data-Warehousing (modeling design principles of the Kimball Methodology, dimensional models integrated via conformed dimensions).

For more details, please refer to the Resource Categories, Tasks and Deliverables section below.

4.0 TECHNICAL ENVIRONMENT

The Contractor will provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.

The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM/zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) XML
- 12) Microsoft Office Suite
- 13) JIRA
- 14) Wiki

5.0 Resource Categories, Tasks and Deliverables

5.1 Resource 1 – Technology Architect Level 2

5.1.1 TASKS

- 5.1.1.1** Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment;
- 5.1.1.2** Identify the CBSA business, IT and application policies and requirements that drive out a particular solution;
- 5.1.1.3** Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision;
- 5.1.1.4** Perform impact analysis by required due dates of applicable technology changes when requested;
- 5.1.1.5** Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;
- 5.1.1.6** Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders;
- 5.1.1.7** Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation;
- 5.1.1.8** Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.1.1.9** Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.1.1.10** Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or Industry standards when no CBSA standard exist;
- 5.1.1.11** Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.1.1.12** Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.1.1.13** Define and assist with ETL tool installation, configuration and integration strategies;
- 5.1.1.14** Automate data feeds from external third party sources outside the CBSA organization as required;
- 5.1.1.15** Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.1.1.16** Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made;
- 5.1.1.17** Participate in ERWin and IDA model reviews;

- 5.1.1.18 Shred XML Data into relational tables using DataStage;
- 5.1.1.19 Develop and maintain an integrated ETL architecture;
- 5.1.1.20 Develop detailed development plans;
- 5.1.1.21 Perform code walkthroughs;
- 5.1.1.22 Develop ETL specifications and ETL design diagrams;
- 5.1.1.23 Define ETL metadata capture solution;
- 5.1.1.24 Define primary and secondary data captures strategies for internal and external data sources;
- 5.1.1.25 Provide advice to developers and designers;
- 5.1.1.26 Coach, mentor and train ETL designers and developers to perform any of the above.

Note: Usage of IBM WebSphere DataStage product line, used within a Data Warehouse and Business intelligence environment.

Note: Usage of DataStage ETL frameworks and architectures for large scale data warehousing; Specialties Include: IBM DataStage, UDB/DB2.

5.1.2 DELIVERABLES

The Contractor, through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.1.2.1 Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.1.2.2 Provide Option Analysis documents as requested by technical authority; in (Word, Excel or PDF) format.
- 5.1.2.3 Write documentation as required.
- 5.1.2.4 Please refer to 5.1.1 Tasks for other deliverables.
- 5.1.2.5 Please refer to 9.0 Reporting Requirements for progress reports.

5.2 Resource 2 – Technology Architect Level 3

5.2.1 TASKS

- 5.2.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment;
- 5.2.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution;
- 5.2.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision;
- 5.2.1.4 Perform impact analysis by required due dates of applicable technology changes when requested;
- 5.2.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;

- 5.2.1.6** Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders;
- 5.2.1.7** Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation;
- 5.2.1.8** Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.2.1.9** Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.2.1.10** Develop ETL best practices, standards, templates and methodologies in a DataStage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or Industry standards when no CBSA standard exist;
- 5.2.1.11** Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.2.1.12** Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.2.1.13** Define and assist with ETL tool installation, configuration and integration strategies;
- 5.2.1.14** Automate data feeds from external third party sources outside the CBSA organization as required;
- 5.2.1.15** Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.2.1.16** Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made;
- 5.2.1.17** Participate in ERWin and IDA model reviews;
- 5.2.1.18** Shred XML Data into into relational tables using DataStage;
- 5.2.1.19** Develop and maintain an integrated ETL architecture;
- 5.2.1.20** Develop detailed development plans;
- 5.2.1.21** Perform code walkthroughs;
- 5.2.1.22** Develop ETL specifications and ETL design diagrams;
- 5.2.1.23** Define ETL metadata capture solution;
- 5.2.1.24** Define primary and secondary data captures strategies for internal and external data sources;
- 5.2.1.25** Provide advice to developers and designers;
- 5.2.1.26** Coach, mentor and train ETL designers and developers to perform any of the above.

Note: Knowledge of IBM WebSphereDataStage product line, used within a Data Warehouse and Business intelligence environment.

Note: Knowledge of DataStage ETL frameworks and architectures for large scale data warehousing; Specialties Include: IBM DataStage, UDB/DB2

5.2.2 DELIVERABLES

The Contractor, through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead

- 5.2.2.1** Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.2.2.2** Provide Option Analysis documents as requested by technical authority; in (Word, Excel or PDF) format.
- 5.2.2.3** Write documentation as required.
- 5.2.2.4** Please refer to **5.2.1 Tasks** for other deliverables.
- 5.2.2.5** Please refer to **9.0 Reporting Requirements** for progress reports.

5.3 Resource 3 – Business Architect Level 3

5.3.1 TASKS

- 5.3.1.1** Develop and support the business architecture strategy for eManifest, based on situational awareness of various business drivers.
- 5.3.1.2** Apply a structured business architecture approach and methodology for capturing the key views of the eManifest project.
- 5.3.1.3** Define linkage between data elements shared between eManifest and the Data Warehouse using the current Data Warehouse metadata toolset – IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.4** Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all eManifest pillars in traditional BI /Reporting.
- 5.3.1.5** Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge.
- 5.3.1.6** Liaise with pillar business and IT representatives to assess CBSA program needs.
- 5.3.1.7** Gather and define Business Intelligence solutions requirements.
- 5.3.1.8** Analyze and document eManifest Data Warehouse data within the current Data Warehouse metadata toolset – IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.9** Analyze and document end-user request for improvements or alterations.
- 5.3.1.10** Prepare briefing material and presentations for senior management.
- 5.3.1.11** Review and provide feedback on existing Architecture.
- 5.3.1.12** Communicate with stakeholders to define requirements.
- 5.3.1.13** Develop and coordinate internal policies and processes
- 5.3.1.14** Work within the Service Lifecycle Management Framework.

5.3.2 DELIVERABLES

The Contractor, through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead

- 5.3.2.1** Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting Solutions
- 5.3.2.2** Quality Assurance plans to guide testers
- 5.3.2.3** Options Analysis documents (as required)
- 5.3.2.4** Risk Dashboard business requirements document
- 5.3.2.5** Written and verbal summaries of meetings with stakeholders
- 5.3.2.6** Write documentation as required.
- 5.3.2.7** Please refer to **5.3.1 Tasks** for other deliverables.

5.3.2.8 Please refer to **9.0 Reporting Requirements** for progress reports.

5.4 Resource 4 – Database Analyst Level 3

5.4.1 TASKS

- 5.4.1.1** Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data).
- 5.4.1.2** Provide support, develop and present DW/BI strategies, roadmaps and project plans.
- 5.4.1.3** Utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users.
- 5.4.1.4** Assist DBAs with BI/DW database performance and design related issues.
- 5.4.1.5** Provide support to develop an Enterprise Data Warehouse Model; including logical model integration of data from multiple subject areas.
- 5.4.1.6** Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements.
- 5.4.1.7** Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database.
- 5.4.1.8** Mediates and resolves conflicts among users' needs for data.
- 5.4.1.9** Advise programmers, analysts, and users about the efficient use of data.
- 5.4.1.10** Work within the Service Lifecycle Management Framework.

5.4.2 DELIVERABLES

The Contractor, through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.4.2.1** Examine data available in existing data source and collect statistics and information about that data via data profiling.
- 5.4.2.2** Develop Complex SQL Queries
- 5.4.2.3** Reconcile between source data and data within the data warehouse
- 5.4.2.4** Translate business requirements into specification documents
- 5.4.2.5** Provide input to Data Warehouse Database Design decisions
- 5.4.2.6** Write documentation as required.
- 5.4.2.7** Please refer to **5.4.1 Tasks** for other deliverables.
- 5.4.2.8** Please refer to **9.0 Reporting Requirements** for progress reports.

6.0 CONSTRAINTS

- 6.1** At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or ling (e.g. VPN) be permitted;
- 6.2** The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

7.0 LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region on-site at CBSA offices. The Business Architect may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.

The contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

8.0 CONSTRAINTS

At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or ling (e.g. VPN) be permitted.

The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

9.0 REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

10.0 LANGUAGE

The resource will be required to perform the work in English.

11.0 ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUC	Business Use Case
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
IDA	InfoSphere Data Architect



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TASK AUTHORIZATION				
Contractor:	4165047 Canada Inc. (o/a D4IS Solutions)			
Contract Number:	5500000917	Financial Coding:	192060080 CC C-0016-22-01 WBS	
Task Number:	2018002433	Date:	February 28, 2019	
Task Amendment Number:	N/A	Date:	N/A	
1. TA Request:				
As per Statement of Work attached at Annex A.				
2. Period of services estimated:	From:	April 1, 2018	To:	March 31, 2020
3. Work Location:	335 North River Road, Tower A, Ottawa ON			
4. Travel Requirements:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Specify:			
5. Other Conditions /Restraints:	As per the contract			
6. Basis of Payment:	Limitation of Expenditure	<input checked="" type="checkbox"/>	Firm Price	<input type="checkbox"/> Ceiling Price <input type="checkbox"/>
7. Method of Payment:	Single	<input type="checkbox"/>	Monthly	<input checked="" type="checkbox"/> Milestones <input type="checkbox"/>
8. Level of security clearance required for the contractor's personnel:	<input type="checkbox"/> Reliability Status <input checked="" type="checkbox"/> Secret <input type="checkbox"/> Top Secret <input type="checkbox"/> Other			
TA Proposal				
9. Estimated Cost Contract:				
Name of Proposed Resource	Category (Level)	Firm Per Diem Rate	Estimated # of Days	Total cost
	IM Architect Level 3			
	Database Analyst Level 3			
	Database Analyst Level 3			
			Total	\$714,990.00
			HST	\$92,948.70
			Grand Total	\$807,938.70
Professional services estimated cost			Estimated Cost	\$0.00
Travel & Living (if applicable)			Grand Total for Labour and Travel	\$807,938.70
TA Approval				
10. Signing Authorities:				
D4IS:				
Name & Title of Individual Authorized to Sign on behalf of the Contractor (print)	Signature		Date	
CBSA:				
Name & Title of Technical Authority: (print)	Signature		Date	
CBSA: Nancy Savaria				
Name & Title of Contracting Authority: (print)	Signature		Date	
11. Basis of Payment & Invoicing				
Payment to be made based on receipt of detailed invoices for services rendered, subject to full acceptance by the Project Authority. Total of payments not to exceed the grand total. The supplier should invoice in ¼, ½, ¾ or whole day increments. For example 1.00, 1.25, 1.50 or 1.75 days.				
Invoices must be sent electronically via email to: vendors-fournisseurs@cbsa-asfc.gc.ca				



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ANNEX A - STATEMENT OF WORK

1. TITLE

Two (2) resources to assist with CBSA's Common, Commercial, and Travellers initiatives in data analytics and BI Cognos Reporting.

2. BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the current Common, Commercial, and Travellers initiatives is to contribute in fulfilling this mandate.

The Enterprise Data Warehouse (EDW) application delivery team within the BASD/Common & Corporate Systems (CCS) is responsible for analysis and development of Canada Border Services Agency's data warehouse mining and reporting solution(s). The team provides analysis, design and specifications for reporting to management and Government of Canada partners on matters of passenger and cargo movement across our borders. The data warehouse is the main source of information for report generation, analysis, and presentation through ad hoc reports, portals, and dashboards.

Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3. SCOPE

The Common and Corporate Services Division of the CBSA requires two (2) resources to assist with Common, Commercial, and Travellers initiatives as follows:

- One IM Architect Level 3, working on large-scale DW/BI projects within an Information Technology (IT) Data Warehouse development environment, analyze existing capabilities and requirements; evaluate existing procedures and methods; identify and document database content, structure and application subsystems, and develop data dictionary; and define and document interfaces of manual to automated operations within application subsystems to external systems and between new and existing systems in support of all current initiatives.
- One Database Analyst Level 3, working on large-scale DW/BI projects within an Information Technology (IT) Data Warehouse development environment to work on large-scale Data Mining and Dimensional Data-Warehousing (modeling design principles of the Kimball Methodology, dimensional models integrated via conformed dimensions) in support of all current initiatives.

4. TECHNICAL ENVIRONMENT

The Contractor shall provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the Contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.

The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW



- 4) IBM/zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) IBM Change Data Capture
- 12) SQL
- 13) XML
- 14) Microsoft Office Suite
- 15) JIRA
- 16) Wiki
- 17) Kimball Methodology

5. RESOURCE CATEGORIES, TASKS AND DELIVERABLES

5.1 RESOURCE 1 - IM ARCHITECT LEVEL 3

5.2.1 TASKS

- 5.2.1.1 Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration;
- 5.2.1.2 Develop and document detailed statements of requirements;
- 5.2.1.3 Develop and support the data architecture strategy for all initiatives, based on situational awareness of various business and IT drivers.
- 5.2.1.4 Apply a structured business and data architecture approach and methodology for capturing the key views of all projects.
- 5.2.1.5 Define linkage between data elements using the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.2.1.6 Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all initiatives in traditional BI /Reporting.
- 5.2.1.7 Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the current projects, which includes transfer of knowledge.
- 5.2.1.8 Liaise with pillar business and IT representatives to assess CBSA program needs.
- 5.2.1.9 Gather and define Business Intelligence solutions requirements.
- 5.2.1.10 Analyze and document Data Warehouse data within the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.2.1.11 Perform cost/benefit analysis of implementing new processes and solutions.
- 5.2.1.12 Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies.
- 5.2.1.13 Provide advice in defining new requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.
- 5.2.1.14 Analyze and document end-user request for improvements or alterations.



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- 5.2.1.15 Prepare briefing material and presentations for senior management.
- 5.2.1.16 Review and provide feedback on existing Architecture.
- 5.2.1.17 Communicate with stakeholders to define requirements.
- 5.2.1.18 Develop and coordinate internal policies and processes
- 5.2.1.19 Provide input into Data Warehouse Design decisions
- 5.2.1.20 Develop Complex SQL queries
- 5.2.1.21 Examine data available in existing data source and collect statistics about that data
- 5.2.1.22 Work within the Service Lifecycle Management Framework.
- 5.2.1.23 Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the current projects, which includes transfer of knowledge

5.2.2 DELIVERABLES

All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for all projects. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

Deliverables listed below will be done according to the development schedules that each of the EDW and BI Reporting projects (eManifest, Postal Modernisation Initiative, G11 Statistics, Entry/Exit & MDM Reporting, Primary Inspection Kiosk-PIK Reporting, RFID Reporting, EDW - Integrated Passage Reporting, Interactive Advanced Passenger Info R2 Reporting, Biometrics Expansion Reporting, Trusted Traders and Star Schema environment Implementation) will follow.

NUMBER	TASKS	DELIVERABLE	SCHEDULE
1.	<p>This deliverable aligns with the following tasks:</p> <ul style="list-style-type: none"> • Prepare briefing material and presentations for senior management. • Communicate with stakeholders to define requirements. • Provide advice in defining new 	<p>Develop Architecture & Design Specifications documents to lead development team. Namely:</p> <ul style="list-style-type: none"> • Architecture and Design Specifications (ADS); • ADS Presentation; • Test Cases; and • Systems Requirements Traceability Matrix. 	<p>Completed no later than the Critical Design Review (CDR) date in the development schedule, 1-4 months after assignment.</p>



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	<p>requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.</p> <ul style="list-style-type: none"> Analyze and document Data Warehouse data within the current Data Warehouse metadata toolset IBM Infosphere Metadata Workbench and Business Glossary. Provide input into Data Warehouse Design decisions Work within the Service Lifecycle Management Framework. 	<p>For the following projects: Entry/Exit, G11 Statistics and BioEx Reporting.</p>	
2.	<p>This deliverable aligns with the following tasks:</p> <ul style="list-style-type: none"> Analyze and document Data Warehouse data within the current Data Warehouse metadata toolset IBM Infosphere Metadata Workbench and Business Glossary. Examine data available in existing data source and collect statistics about that data 	<p>Define linkage between data elements using the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.</p>	<p>Completed no later than a date in the development schedule, 1-4 months after assignment</p>
3.	<p>This deliverable aligns with the following tasks:</p> <ul style="list-style-type: none"> Develop Complex SQL queries Examine data available in existing data source and collect statistics about that data 	<p>Create Extract Transform Language (ETL) Specifications For the following projects: Entry/Exit, G11 Statistics and BioEx Reporting.</p>	<p>Completed no later than a date in the development schedule, 1-4 months after assignment.</p>



5.3 RESOURCE 2 - DATABASE ANALYST LEVEL 3

5.3.1 TASKS

- 5.3.1.1 Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data);
- 5.3.1.2 Provide support, develop and present DW/BI strategies, roadmaps and project plans;
- 5.3.1.3 Develop Complex SQL queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals and utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users;
- 5.3.1.4 Assist DBAs with BI/DW database performance and design related issues,
- 5.3.1.5 Provide support to develop an Enterprise Data Warehouse Model; including logical model integration of data from multiple subject areas and use Kimball Methodology (dimensional models integrated via conformed dimensions);
- 5.3.1.6 Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements;
- 5.3.1.7 Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database;
- 5.3.1.8 Mediates and resolves conflicts among users' needs for data;
- 5.3.1.9 Advise programmers, analysts, and users about the efficient use of data;
- 5.3.1.10 Provide input into Data Warehouse Design decisions;
- 5.3.1.11 Examine data available in existing data source and collect statistics about that data;
- 5.3.1.12 Write source to target mappings; and
- 5.3.1.13 Work within the Service Lifecycle Management Framework.

5.3.2 DELIVERABLES

All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for all projects. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

Deliverables listed below will be done according to the development schedules that each of the EDW and BI Reporting projects (eManifest, Postal Modernisation Initiative, G11 Statistics, Entry/Exit & MDM Reporting, Primary Inspection Kiosk-PIK Reporting, RFID Reporting, EDW - Integrated Passage Reporting, Interactive Advanced Passenger Info R2 Reporting, Biometrics Expansion Reporting, Trusted Traders and Star Schema environment Implementation) will follow.



NUMBER	TASKS	DELIVERABLE	SCHEDULE
1.	<p>This deliverable aligns with the following tasks:</p> <ul style="list-style-type: none"> Analyze and document Data Warehouse data within the current Data Warehouse metadata toolset IBM Infosphere Metadata Workbench and Business Glossary. Examine data available in existing data source and collect statistics about that data 	<p>Define linkage between data elements using the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.</p> <p>For the following projects: Entry/Exit, G11 Statistics, BioEx Reporting.</p>	<p>Completed no later than a date in the development schedule, 1-4 months, after assignment.</p>
2.	<p>This deliverable aligns with the following task:</p> <ul style="list-style-type: none"> Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements; 	<p>Develop Design/System Requirements Traceability Matrix</p>	<p>Completed no later than the CDR date in the development schedule, 1-4 months after assignment.</p>
3.	<p>This deliverable aligns with the following tasks:</p> <ul style="list-style-type: none"> Examine data available in existing data source and collect statistics about that data Write source to target mappings 	<p>Create Primary Data Acquisition Specifications</p> <p>For the following projects: Entry/Exit, G11 Statistics, BioEx Reporting,</p>	<p>Completed no later than a date in the development schedule, 1-4 months after assignment.</p>
4.	<p>The deliverable aligns with the following tasks:</p> <ul style="list-style-type: none"> Develop Complex SQL queries Examine data available in existing data source and collect statistics about that data 	<p>Create Extract Transform Language (ETL) Specifications</p> <p>For the following projects: Entry/Exit, G11 Statistics and BioEx Reporting.</p>	<p>Completed no later than a date in the development schedule, 1-4 months, after assignment.</p>

Canada Border
Services AgencyAgence des services
frontaliers du Canada

6. CONSTRAINTS

- 6.1 At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or link (e.g. VPN) be permitted;
- 6.2 The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

7. LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region (NCR) on-site at CBSA offices. The Resources may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract with no expenses incurred to CBSA.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.

The Contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

8. REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

9. LANGUAGE

The resources will be required to perform the work in English. Every individual proposed in its bid will be fluent in English. The individual(s) proposed must be able to communicate orally and in writing in English without any assistance and with minimal errors.

10. ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUC	Business Use Case
CBSA	Canada Border Services Agency
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
IDA	InfoSphere Data Architect



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IM	Information Management
IT	Information Technology
SQL	Structured Query Language
UDB	Universal Database
VPN	Virtual Private Network
XML	Extensible Markup Language



Canada Border
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Agence des services
frontaliers du Canada

Contract No. 5500000917

Purchasing Office — Bureau des Achats :
Canada Border Services Agency
Agence des services frontaliers du Canada
355 North River Road - 355 ch. River nord
17th Floor - 17^{ème} étage
Ottawa ON K1A 0L8

Title — Sujet:

Amendment 001- TBIPS SA 1 5 IM Architect Level 3 & I.3.
Database Analyst Level 3

**Contract No. — No du
contract:**

5500000917

**Amendment No. - No. de
modification**

001

Contract Amendment — Modification au Contrat

The referenced document is hereby revised; un ess otherwise
indicated, all other terms and conditions of the contract remain
the same.

Ce document est par la présente révisé

D.D.P. — D.D.P.:

Destination of Goods, Services, And Construction
Destination des biens, services et construction
See herein — voir aux présentes

Invoices to be sent to — Factures Envoyer à :

Canada Border Service Agency
Agence des services frontaliers du Canada
vendors-fournisseurs@cbsa-asfc.gc.ca

**The Vendor/Firm hereby accepts/acknowledges this contract
— Le fournisseur/entrepreneur accepte/accuse réception du
présent contrat :**

Signature

Date

Name, title of person authorized to sign (type or print) —
Nom et titre du signataire autorisé (caractère d'impression)

Contracting Authority — Autorité contractante :

Nancy Savaria
Nancy.savaria@cbsa-asfc.gc.ca

Telephone No. — No de telephone:

343-291-5693

**Fax No. — No de
télécopieur :**

N/A

**Previous Total Cost (HST incl.) / Coût total
antérieur (tax incl.)**

\$1,054,403.00

**Amendment Value (HST incl.) / Valeur de
la modification (tax incl.)**

\$0.00

**Revised Value (HST incl.) / Valeur révisée
(tax incl.)**

\$1,054,403.00

**Currency Type - Genre
de devise**

CAD

Vendor / Firm Name and Address

Raison sociale et adresse du fournisseur/de l'entrepreneur :
4165047 Canada Inc. (o/a D4i5 Solutions)
35A Gamelin
Gatineau, Quebec
J8Y 1V4

Signed for the President by — Signé pour le Président par :

Signature

Date

Name and Position Title — Nom et Titre du poste

Josephine Dahan
Director, Strategic Procurement Division (SPD)



Amendment 001 is raised to amend the contract period only.

The following clauses are modified as follows:

1. Period of Contract

Article 7.6 is deleted in its entirety and replaced by:

- a. Contract Period: The "Contract Period" is the entire period of time during which the Contractor is obliged to perform the Work, which includes:
 - i. The "Initial Contract Period", which begins on the date the Contract is awarded and ends on March 31, 2020 inclusively.

All other terms and conditions shall remain the same.



Canada Border
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Agence des services
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17th Floor - 17^{ème} étage
Ottawa ON K1A 0L8

Title — Sujet:

Amendment 001: TBIPS SA - I.5, IM Architect Level: 3 & I.3.
Database Analyst Level 3

Contract No. — No du
contract:

5500000917

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Signature

2019-03-01
Date

Name, title of person authorized to sign (type or print) —
Nom et titre du signataire autorisé (caractère d'impression)

Yvan Dubé - President & CEO

Contracting Authority — Autorité contractante :

Nancy Savaria
Nancy.savaria@cbsa-asfc.gc.ca

Telephone No. — No de telephone:

343-291-5693

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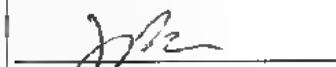
Currency Type - Genre
de devise

CAD

Vendor / Firm Name and Address

Raison sociale et adresse du fournisseur/de l'entrepreneur :
4165047 Canada Inc. (o/a D4IS Solutions)
35A Gamelin
Gatineau, Québec
J8Y 1V4

Signed for the President by — Signé pour le Président par :


Signature

Mar 1 / 2019
Date

Name and Position Title — Nom et Titre du poste

Josephine Dahan
Director, Strategic Procurement Division (SPD)



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Canada Border
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Agence des services
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**Contract No. — No du
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Date

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Nom et titre du signataire autorisé (caractère d'impression)

Contracting Authority — Autorité contractante :

Nancy Savaria
Nancy.savaria@cbsa-asfc.gc.ca

Telephone No. — No de telephone:

343-291-5693

**Fax No. — No de
télécopieur :**

N/A

**Previous Total Cost (HST incl.) / Coût total
antérieur (tax incl.)**

\$1,054,403.00

**Amendment Value (HST incl.) / Valeur de
la modification (tax incl.)**

\$186,280.50

**Revised Value (HST incl.) / Valeur révisée
(tax incl.)**

\$1,240,683.50

**Currency Type - Genre
de devise**

CAD

Vendor / Firm Name and Address

Raison sociale et adresse du fournisseur/de l'entrepreneur :
4165047 Canada Inc. (o/a D4iS Solutions)
35A Gamelin
Gatineau, Québec
J8Y 1V4

Signed for the President by — Signé pour le Président par :

Signature

Date

Name and Position Title — Nom et Titre du poste

Linda Abboud
A/Director
Director, Strategic Procurement Division (SPD)



Canada Border
Services Agency

Agence des services
frontaliers du Canada

Contract No. 5500000917

Amendment 002 is raised to amend the following:

The following clauses are modified as follows

1. Payment

Article 7.8 (b) is deleted in its entirety and replaced by:

7.8 PAYMENT

b. Canada's total responsibility

1. Limitation of Expenditure - Cumulative Total of all Approved Task Authorizations

Canada's total liability to the Contractor under the Contract for all approved Task Authorizations, inclusive of any amendments, must not exceed \$1,097,950.00

Customs duties are included and the Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

- a. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum when:

- A. It is 75 percent committed, or
- B. 4 months before the Contract expiry date, or
- C. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

whichever comes first.

If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Providing this information does not increase Canada's liability.

2. Annex B

Article 3 is deleted in its entirety and replaced by:

3.0 TOTAL ESTIMATED COST OF LABOUR AND TRAVEL AND LIVING EXPENSES

The total estimated cost is: \$1,097,950.00 + Applicable taxes

All other terms and conditions shall remain the same.



Canada Border
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Contract No. 5500000917

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Canada Border Services Agency
Agence des services frontaliers du Canada
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17th Floor - 17^{ème} étage
Ottawa ON K1A 0L8

Title — Sujet:

Amendment 001: TBIPS SA - I.5. IM Architect Level 3 & I 3
Database Analyst Level 3

Contract No. — No du
contract:

5500000917

Amendment No. - No, de
modification

001

Contract Amendment — Modification au Contrat

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Destination of Goods, Services, And Construction —

Destination des biens, services et construction

See herein — voir aux présentes

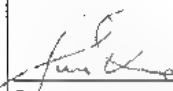
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vendors-fournisseurs@cbsa-asfc.gc.ca

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Signature

2019-06-13

Date

Name, title of person authorized to sign (type or print) —
Nom et titre du signataire autorisé (caractère d'impression)

Yvan Dubé
President & CEO

Contracting Authority — Autorité contractante :

Nancy Savaria

Nancy.savaria@cbsa-asfc.gc.ca

Telephone No. — No de téléphone:

343-291-5693

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Currency Type - Genre
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Vendor / Firm Name and Address

Raison sociale et adresse du fournisseur/de l'entrepreneur :

4165047 Canada Inc. (o/a D4IS Solutions)
35A Gamelin
Gatineau, Québec
J8Y 1V4

Signed for the President by — Signé pour le Président par :

ABBOUD
LINDA

Digitally signed by ABBOD LINDA
DN: cn=Linda, o=gc, ou=Canada, email=ABBOD LINDA,
serialNumber=20172416044153
Date: 2019.05.24 14:01:04-0400

Signature

Date

Name and Position Title — Nom et Titre du poste

Linda Abboud

A/Director

Director, Strategic Procurement Division (SPD)



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All other terms and conditions shall remain the same.



CONSENSUS EVALUATION WORKSHEETS

SOLICITATION No.:	1000328403	TITLE:	TBIPS SA - I 5. IM Architect Level 3
NAME OF BIDDER:	D4IS Solutions	RESOURCE NAME:	

EVALUATION SCORE:			
Mandatory Criteria:	Met / Not Met:	Met	Responsive
	Maximum Score Available:	85 points	Responsive
Point-Rated Criteria:	Minimum Score Required:	58 points	
	Total Points Achieved:	83 points	



Mandatory Technical Criteria (MT)			
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Mandatory Technical criterion not addressed will be considered as "Not Met".			
	Mandatory Technical Criteria	Met/Not Met	Comments
RESOURCE #1 - IM ARCHITECT LEVEL 3			
MT1	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last 180 months, from bid closing, in demonstrating knowledge of data architecture principles within a Data Warehouse Information Technology (IT) Development Environment serving an organization (Government Federal/Provincial/Municipal and/or Private sector) that has a minimum of 8,000 employees.	MET	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 27 / 40 months Project No. 25 / 13 months Project No. 23 / 13 months Project No. 20 / 28 months Project No. 16 / 12 months Project No. 10 / 16 months Project No. 9 / 8 months Total of 130 months counted.
MT2	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months, from bid closing for each of the following functions: 1. Developing Business and System Use cases for business goals; 2. Performing interviews and consultations with stakeholders for requirements gathering and analysis; 3. Facilitating stakeholder workshops with a minimum of five (5) participants; 4. Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate.	MET	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 27 / 40 months Project No. 25 / 13 months Project No. 23 / 13 months Total of 66 months counted.
MT3	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last 180 months, from bid closing, participating in the development of data models, policies and procedures.	MET	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 27 / 40 months Project No. 25 / 13 months



Mandatory Technical Criteria (MT)		
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Mandatory Technical criterion not addressed will be considered as "Not Met".		
Mandatory Technical Criteria	Met/Not Met	Comments
RESOURCE #1 - IM ARCHITECT LEVEL 3		
		Project No. 23 / 13 months Project No. 20 / 28 months Project No. 16 / 12 months Project No. 10 / 16 months Project No. 9 / 8 months Total of 130 months counted.

Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Comments
RESOURCE #1 - IM ARCHITECT LEVEL 3				
RT1	Points will be awarded where the proposed resource has demonstrated experience reviewing corporate architecture strategies and directions, and devising data subject areas to support them within the last 180 months, from bid closing.	Demonstrated experience will be scored as follows:		The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:
		12 to 24 months = 4 points	20 points	Project No. 27 / 40 months
		25 to 36 months = 8 points		Project No. 20 / 28 months
		37 to 48 months = 12 points		Total of 68 months counted.
		49 to 60 months = 16 points		
RT2	Points will be awarded where the proposed resource has demonstrated experience collaborating with Application Architects in contributing to business planning at the enterprise level within the last 180 months, from bid closing.	61+ months = 20 points		
		Demonstrated experience will be scored as follows.		The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:
		36 to 48 months = 4 points	20 points	Project No. 27 / 40 months
		49 to 60 months= 8 points		Project No. 25 / 13 months
		61 to 72 months = 12 points		Project No. 20 / 28 months
RT3	Points will be awarded where the proposed resource has demonstrated experience in identifying and addressing data quality and integrity issues to continually increase the value of information available to business users within the last 180 months.	73 to 84 months = 16 points		Project No. 16 / 12 months
		85+ months = 20 points		Total of 93 months counted.
		Demonstrated experience will be scored as follows	10 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:
		37 to 60 months = 2 points		Project No. 27 / 40 months
				Project No. 25 / 13 months
				Project No. 23 / 13 months

Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Comments
RESOURCE #1 - IM ARCHITECT LEVEL 3				
		61 to 84 months = 4 points 85 to 108 months = 6 points 109 to 120 months = 8 points 121+ months = 10 points		Project No. 20 / 28 months Project No. 16 / 12 months Project No. 10 / 16 months Project No. 9 / 8 months Total of 130 months counted.
RT4	Points will be awarded where the proposed resource has demonstrated experience defining (describing or outlining) linkages, providing analysis and documenting data elements utilizing a Data Warehouse metadata toolset consisting of IBM InfoSphere Metadata Workbench and Business Glossary within the last 84 months, from bid closing.	Demonstrated experience will be scored as follows: 12 months or less = 1 points 13 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49 to 60 months = 8 points 61+ months = 10 points	10 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 28 / 62 months Total of 62 months counted.
RT5	Points will be awarded where the proposed resource has demonstrated experience with Enterprise Data Warehouse design and implementation within the last 120 months, from bid closing.	Demonstrated experience will be scored as follows: 12 months or less = 1 points 13 to 24 months = 2 points 25 to 36 months = 4 points	10 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 27 / 40 months Project No. 20 / 22 months Total of 62 months counted.



Canada Border
Services Agency

Agence des services
frontaliers du Canada

Solicitation No. 1000328403

Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Comments
	RESOURCE #1 - IM ARCHITECT LEVEL 3			
		37 to 48 months = 6 points 49 to 60 months = 8 points 61 months = 10 points		
RT6	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months working on large-scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas: 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries Development of Complex SQL Queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals.	Demonstrated experience will be scored as follows: 12 months or less = 1 point 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 72 months = 6 points 73 to 108 months = 8 points 108+ months = 10 points	8 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 28 / 14 months Project No. 27 / 40 months Project No. 25 / 13 months Project No. 23 / 13 months Project No. 20 / 22 months Total of 102 months counted.
RT7	The proposed resource has a Certified Business Intelligence Professional (CBIP) Certification.	5 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid.	5 points	Copy with the bid. Accepted BI certifications that are ISO certified.
	Minimum	Total Available points	85	
		Total Overall Points Required	58	
		Total achieved	83	



CONSENSUS EVALUATION WORKSHEETS

SOLICITATION No.:	1000328403	TITLE:	TBIPS SA - 3. Database Analyst Level 3
NAME OF BIDDER:	D4IS Solutions	RESOURCE NAME:	

EVALUATION SCORE:			
Mandatory Criteria:	Met / Not Met:	Met	Responsive
	Maximum Score Available:	127 points	Responsive
Point-Rated Criteria:	Minimum Score Required:	88 points	
	Total Points Achieved:	127 points	

Mandatory Technical Criteria (MT)			
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Mandatory Technical criterion not addressed will be considered as "Not Met".			
	Mandatory Technical Criteria	Met/Not Met	Comments
RESOURCE #2 - DATABASE ANALYST LEVEL 3			
MT1	<p>The proposed resource must have a minimum of 120 months of demonstrated experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an organization (Government Federal/Provincial/Municipal and/or Private sector) that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas:</p> <p>1) Providing input to Data Warehouse Database Design decisions;</p> <p>2) Data Profiling;</p> <p>3) Development of complex SQL Queries such as: incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and advanced SQL functions such as and not limited to: union, case, intersect, decode.</p>	MET	<p>The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:</p> <p>Project No. 14 / 56 months Project No. 13 / 6 months Project No. 11 / 19 months Project No. 10 / 8 months Project No. 7 / 14 months Project No. 6 / 42 months Project No. 2 / 26 months</p> <p>Total of 171 months counted.</p>
MT2	<p>The proposed resource must have a minimum of 60 months of experience in the last 180 months of demonstrated experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions).</p> <p>Large-scale is defined as multi-tier, having both Data Analytics and Business Intelligence capabilities, and housing multiple and varied data sources.</p>	MET	<p>The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:</p> <p>Project No. 14 / 56 months Project No. 6 / 42 months Project No. 2 / 26 months</p> <p>Total of 124 months counted.</p>

Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Comments
RESOURCE #2 - DATABASE ANALYST LEVEL 3				
RT1	Further to Resource #2 - Mandatory Criteria MT1, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows:		The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:
		121 to 132 months = 4 points	20 points	Project No. 14 / 56 months
		133 to 144 months = 8 points		Project No. 13 / 6 months
		145 to 156 months = 12 points		Project No. 11 / 19 months
		157 to 168 months = 16 points		Project No. 10 / 8 months
	169+ months = 20 points		Project No. 7 / 14 months	
				Project No. 6 / 42 months
				Project No. 2 / 26 months
				Total of 171 months counted.
RT2	Further to Resource #2 - Mandatory Criteria MT2, additional demonstrated experience above the minimum required will be evaluated	Demonstrated experience will be scored as follows:		The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:
		61 to 72 months = 4 points	20 points	Project No. 14 / 56 months
		73 to 84 months = 8 points		Project No. 6 / 42 months
		85 to 96 months = 12 points		Project No. 2 / 26 months
		97 to 108 months = 16 points		
	109+ months = 20 points		Total of 124 months counted.	
RT3	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in translating business requirements into specifications documents within the last 180 months.	Demonstrated experience will be scored as follows:	10 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:
		13 to 36 months = 2 points		Project No. 14 / 56 months



Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Comments
RESOURCE #2 - DATABASE ANALYST LEVEL 3				
		37 to 60 months= 4 points 61 to 84 months = 6 points 85 to 120 months = 8 points 120+ months = 10 points		Project No. 11 / 19 months Project No. 7 / 14 months Project No. 6 / 42 months Total of 131 months counted.
RT4	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in writing source to target mappings within the last 180 months.	Demonstrated experience will be scored as follows: 13 to 36 months = 2 points 37 to 60 months= 4 points 61 to 84 months = 6 points 85 to 120 months = 8 points 120+ months = 10 points	10 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 14 / 56 months Project No. 11 / 19 months Project No. 7 / 14 months Project No. 6 / 42 months Total of 131 months counted.
RT5	Points will be awarded where the proposed resource has demonstrated experience with large-scale Data Warehouse projects as a Data Analyst addressing Business Intelligence/Data Warehouse (BI/DW) performance-related. Large-scale is defined as multi-tier, having both Data Analytics and Business Intelligence capabilities, and housing multiple and varied data sources.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	6 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects: Project No. 14 / 56 months Total of 56 months counted.
RT6	Points will be awarded where the proposed resource has demonstrated experience providing input into the	Demonstrated experience will be scored as follows:	20 points	The Bidder has demonstrated that the proposed resource has the minimum experience required that pertains to this criteria with the following projects:

Page 5 of 7



Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Comments
	RESOURCE #2 - DATABASE ANALYST LEVEL 3			
	Intelligence Professional (CBIP) Certification.	readable copy of the certificate in English or French with its bid.		
	Total Available points		127	
	Minimum Total Overall Points Required		88	
	Total achieved		127	



Canada Border
Services Agency

Agence des services
frontaliers du Canada

CONTRACT AMENDMENT REQUEST DEMANDE DE MODIFICATION DE CONTRAT

Requestor's Name Nom du demandeur Elena Zakharov	Cost Centre / Centre de coûts 1920 600 80	WBS / SRI C-00027-33-21	Funds Number / Source des fonds 6001	PSSA / SSAP 34200
Contract Number Numéro du contrat PO 2018002433	Date of Request / Date de la demande February 19, 2019	Current Contract value / Valeur du contrat actuel \$822,202.50	Value of Amendment / Valeur de la modification \$345,600	Amendment Number / Numéro de modification 7
				Contract Expiry Date / Date d'échéance du contrat 31/03/2019

REASONS FOR AMENDMENT / MOTIFS DE LA MODIFICATION

- Is this request to exercise an existing option period? / La présente demande vise-t-elle à exercer une période d'option existante?
☒ YES / OUI ☐ NO / NON
- Is the proposed amendment for additional work? / La modification proposée vise-t-elle des travaux supplémentaires?
☒ YES / OUI ☐ NO / NON
Please explain / Prière d'expliquer
To manage and coordinate the business objectives of the CBSA Commercial Travellers and Common initiatives in BI reporting
For project continuity and efficiency we have a better chance of realizing benefits within projected costs if we were to maintain this resource
If yes, Please include a revised SOW, hours/per diem/units and cost / Dans l'affirmative, prière d'inclure un énoncé des travaux modifié, heures/par jour/unités et coûts
- What is the justification for the amendment? / Quelle est la justification de la modification?
CCSD requires two resources to assist with DW/BI projects within IT Data Warehouse development environment and to perform data warehouse activities applying efficient and effective solutions across all pillars in traditional B Reporting in support of Common (PMI) Commercial (Cannabis, eMan TT) and Travellers (PIK E/E, API) initiatives
- Will the amendment affect the completion date? / La modification aura-t-elle une incidence sur la date d'échéance?
☐ YES / OUI ☒ NO / NON
If yes, please indicate the new completion date. / Dans l'affirmative, prière d'indiquer une nouvelle date d'échéance.
- Could this amendment have been avoided? Why? / La modification aurait-elle pu être évitée? Pourquoi?
Yes, if the contract for the required resources was already in place
- Are there any risk and/or legal considerations that could arise as a result of this amendment request such as Employer-Employee relationship? / La présente demande de modification peut-elle entraîner des risques ou des considérations juridiques, par exemple pour les relations entre l'employeur et l'employé?
☐ YES / OUI ☒ NO / NON
Please explain / Prière d'expliquer
- What is the likelihood of an additional amendment or follow-on contract to the same person/vendor? Describe any efforts taken to put in place long-term procurement arrangements to address similar requirements/activities in future (e.g. establish standing offer, contracts with options periods etc.) / Quelle est la probabilité qu'une nouvelle modification ou qu'un contrat de suivi soit accordé à la même personne ou au même vendeur? Décrivez les efforts déployés pour conclure des ententes d'acquisition à long terme pour traiter des besoins ou des activités semblables à l'avenir (p. ex. établissement d'une offre permanente, contrats avec des périodes d'option)
Unlikely that there will be an amendment
Please ensure to engage the Strategic Procurement and Contracting Operation Division early in the planning process. / Prière de mobiliser la Division des approvisionnements stratégiques et des opérations liées aux marchés tôt dans le processus de planification

SIGNATURE OF THE PROJECT AUTHORITY / SIGNATURE DU CHARGÉ DE PROJET

Nathalie Gaul		26.7.2019
NAME (Please print) / NOM (Lettres majuscules)	SIGNATURE	DATE

Mandatory Technical Criteria (MT)			
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Mandatory Technical criterion not addressed will be considered as "Not Met".			
	Mandatory Technical Criteria	Met/Not Met	Cross Reference to proposal (Page #)
RESOURCE #2 - DATABASE ANALYST LEVEL 3			
MT1	<p>The proposed resource must have a minimum of 120 months of demonstrated experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an organization (Government Federal/Provincial/Municipal and/or Private sector) that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas.</p> <p>1) Providing input to Data Warehouse Database Design decisions;</p> <p>2) Data Profiling;</p> <p>3) Development of complex SQL Queries such as: incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and advanced SQL functions such as and not limited to: union, case, intersect, decode.</p>		
MT2	<p>The proposed resource must have a minimum of 60 months of experience in the last 180 months of demonstrated experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions).</p> <p>Large-scale is defined as multi-tier, having both Data Analytics and Business Intelligence capabilities, and housing multiple and varied data sources.</p>		

Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Cross Reference to proposal (Page #)
RESOURCE #2 - DATABASE ANALYST LEVEL 3				
RT1	Further to Resource #2 - Mandatory Criteria MT1, additional demonstrated experience above the minimum required will be evaluated.	<p>Demonstrated experience will be scored as follows:</p> <p>121 to 132 months = 4 points</p> <p>133 to 144 months = 8 points</p> <p>145 to 156 months = 12 points</p> <p>157 to 168 months = 16 points</p> <p>169+ months = 20 points</p>	Up to 20 points	
RT2	Further to Resource #2 - Mandatory Criteria MT2, additional demonstrated experience above the minimum required will be evaluated.	<p>Demonstrated experience will be scored as follows:</p> <p>61 to 72 months = 4 points</p> <p>73 to 84 months = 8 points</p> <p>85 to 96 months = 12 points</p> <p>97 to 108 months = 16 points</p> <p>109+ months = 20 points</p>	Up to 20 points	
RT3	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in translating business requirements into specifications documents within the last 180 months	<p>Demonstrated experience will be scored as follows:</p> <p>13 to 36 months = 2 points</p>	Up to 10 points	

Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Cross Reference to proposal (Page #)
		37 to 60 months = 4 points 61 to 84 months = 6 points 85 to 120 months = 8 points 120+ months = 10 points		
RT4	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in writing source to target mappings within the last 180 months.	Demonstrated experience will be scored as follows: 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 84 months = 6 points 85 to 120 months = 8 points 120+ months = 10 points	Up to 10 points	
RT5	Points will be awarded where the proposed resource has demonstrated experience with large-scale Data Warehouse projects as a Data Analyst addressing Business Intelligence/Data Warehouse (BI/DW) performance-related. Large-scale is defined as multi-tier, having both Data Analytics and Business Intelligence capabilities, and housing multiple and varied data sources.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	

Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Points	Cross Reference to proposal (Page #)
RT6	Points will be awarded where the proposed resource has demonstrated experience providing input into the creation and/or maintenance of Dimensional Data Models in the last 60 months, from bid closing.	Demonstrated experience will be scored as follows: 13 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM InfoSphere DataStage in the last 60 months, from bid closing.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM DB2 in the last 60 months, from bid closing	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	

Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately. Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Points	Cross Reference to proposal (Page #)
RT9	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Data Architect in the last 60 months, from bid closing.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Cognos BI in the last 60 months, from bid closing.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT11	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Puredata (or PostgreSQL will also be accepted) in the last 60 months, from bid closing.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT12	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications sourced from complex XML data structures	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points	Up to 6 points	



Canada Border
Services Agency

Agence des services
de renseignements du Canada

Requisition for Goods and Services - Demande de biens et de services

For Amendment Only
Pour modification seulement

Aux fins de modification seulement

Amend No / Modification No: 7

Amount / Montant: 303,775.00

Originator / Auteurs: Normand Gurdion

Address / Adresse: 343-281-6907

Telephone / Téléphone: 343-281-6907

Confirmation / Confirmation: 343-281-6907

Buyer's Name / Nom de l'acheteur: Normand Gurdion

Buyer's Address / Adresse: 343-281-6907

Buyer's Telephone / Téléphone: 343-281-6907

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Special Instructions / Instructions spéciales

Reference/Stock No. and Description / N° de référence de nomenclature et description

Date Required / Date requise

Quantity / Quantité

Unit / Unité

Estimated Price / Prix estimé

Comments / Commentaires

Signature / Signature

Date / Date

Signature / Signature

Date / Date

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Canada Border Services Agency
Agence des services frontaliers du Canada

Solicitation No. 1000328907

- to provide this information is not mandatory, but it is recommended. If Canada determines that the information required by the Bid Submission Form is incomplete or requires correction, Canada will provide the Bidder with an opportunity to do so.
- ii. **Security Clearance:** Bidders are requested to submit the following security information for each of the proposed resources with their bids on or before the bid closing date:
- SECURITY INFORMATION:
- Name of individual as it appears on security clearance application form _____
- Level of security clearance obtained: _____
- Validity period of security clearance obtained: _____
- Security Screening Certificate and Briefing Form file number: _____
- If the Bidder has not included the security information in its bid, the Contracting Authority will provide the Bidder with an opportunity to submit the security information during the evaluation period. If the Bidder has not submitted the security information within the period set by the Contracting Authority, its bid will be declared non-responsive.
- iii. **Substantiation of Technical Compliance:**
- The technical bid must substantiate the compliance with the specific articles of Attachment 4.1, which is the requested format for providing the substantiation. The substantiation must not simply be a repetition of the requirement(s), but must explain and demonstrate how the Bidder will meet the requirements and carry out the required Work. Simply stating that the Bidder or its proposed solution or product complies is not sufficient. Where Canada determines that the substantiation is not complete, the Bidder will be considered non-responsive and disqualified. The substantiation may refer to additional documentation submitted with the bid; this information can be referenced in the "Bidder's Response" column of Attachment 4.1, where Bidders are requested to indicate where in the bid the reference material can be found, including the title of the document, and the page and paragraph numbers, where the reference is not sufficiently precise. Canada may request that the Bidder direct Canada to the appropriate location in the documentation.
- iv. **For Proposed Resources:** The technical bid must include résumés for the resources as identified in Attachment 4.1. The same individual must not be proposed for more than one Resource Category or more than one Workstream. The Technical bid must demonstrate that each proposed individual meets the qualification requirements described (including any educational requirements, work experience requirements, and professional designation or membership requirements). With respect to the proposed resources:
- A. Proposed resources may be employees of the Bidder or employees of a subcontractor, or these individuals may be independent contractors to whom the Bidder would subcontract a portion of the Work.
 - B. For educational requirements for a particular degree, designation or certificate, Canada will only consider educational programmes that were successfully completed by the resource by the time of bid closing.
 - C. For requirements relating to professional designation or membership, the resource must have the required designation or membership by the time of bid closing and must continue, where applicable, to be a member in good standing of the profession or membership throughout the evaluation period and contract period. Where the designation or membership must be demonstrated through a certification, diploma or degree, such document must be current, valid and issued by the entity specified in this solicitation. If the entity is not specified, the issuer must be an accredited or otherwise recognized body, institution or entity.
 - D. For work experience, Canada will not consider experience gained as part of an educational programme, except for experience gained through a formal cooperative programme at a post-secondary institution.



- E For any requirements that specify a particular time period (e.g., 2 years) of work experience, Canada will disregard any information about experience if the technical bid does not include the relevant dates (month and year) for the experience claimed (i.e., the start date and end date). Canada will evaluate only the duration that the resource actually worked on a project or projects (from his or her start date to end date), instead of the overall start and end date of a project or a combination of projects in which a resource has participated.
- F For work experience to be considered by Canada, the technical bid must not simply indicate the title of the individual's position but must demonstrate that the resource has the required work experience by explaining the responsibilities and work performed by the individual while in that position. In situations in which a proposed resource worked at the same time on more than one project, the duration of any overlapping time period will be counted only once toward any requirements that relate to the individual's length of experience.
- v. **Customer Reference Contact Information** The Bidder must provide customer references who must each confirm, if requested by Canada the facts identified in the Bidder's bid, as required by Attachment 4.1. For each customer reference, the Bidder must, at a minimum, provide the name, the telephone number and e-mail address for a contact person. Bidders are also requested to include the title of the contact person. If there is a conflict between the information provided by the customer reference and the bid, the information provided by the customer reference will be evaluated instead of the information in the bid. If the named individual is unavailable when required during the evaluation period, the Bidder may provide the name and contact information of an alternate contact from the same customer.
- vi. **Corporate Profile** The Bidder is requested to provide a corporate profile, which should include an overview of the Bidder and any subcontractors, and/or authorized agents of the Bidder that would be involved in the performance of the Work on the Bidder's behalf. The Bidder is requested to provide a brief description of its size, corporate structure, years in business, business activities, major customers, number of employees and their geographic presence. This information is requested for information purposes only and will not be evaluated.

3.3 SECTION II FINANCIAL BID

- a. **Pricing:** Bidders must submit their financial bid in accordance with the Basis of Payment provided in Attachment 4.2 of this bid solicitation. The total amount of Applicable Taxes must be shown separately, if applicable. Unless otherwise indicated, Bidders must include a single, firm, all-inclusive per diem rate in Canadian dollars in each cell requiring an entry in the pricing tables.
- b. **Variation in Resource Rates By Time Period:** For any given Resource Category, where the financial tables provided by Canada allow different firm rates to be charged for a resource category during different time periods:
 - i. the rate bid must not increase by more than 5% from one time period to the next, and
 - ii. the rate bid for the same Resource Category during any subsequent time period must not be lower than the rate bid for the time period that includes the first month of the Initial Contract Period.
- c. **All Costs to be Included:** The financial bid must include all costs for the requirement described in the bid solicitation for the entire Contract Period, including any option periods. The identification of all necessary equipment, software, peripherals, cabling and components required to meet the requirements of the bid solicitation and the associated costs of these items is the sole responsibility of the Bidder.
- d. **Blank Prices:** Bidders are requested to insert "\$0.00" for any item for which it does not intend to charge or for items that are already included in other prices set out in the tables. If the Bidder leaves any price blank, Canada will treat the price as "\$0.00" for evaluation purposes and may request that the Bidder confirm that the price is, in fact, \$0.00. No Bidder will be permitted to add or change a price as part of this confirmation. Any Bidder who does not confirm that the price for a blank item is \$0.00 will be declared non-responsive.



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3.4 SECTION III - CERTIFICATIONS

Bidders must submit the certifications required under Part 5 that have not been included in the Technical Bid



ANNEX A - STATEMENT OF WORK

1. TITLE

Two (2) resources to assist with CBSA initiatives such as eManifest and potentially the Beyond the Border initiatives

2. BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

eManifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

The Beyond the Border Action Plan sets out 32 initiatives that forward a perimeter approach to protect the security of Canada and the United States, and strengthen economic competitiveness in both countries by addressing threats early; facilitating trade, economic growth and jobs; integrating cross-border law enforcement; and ensuring there is a critical infrastructure and cyber security.

Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3. SCOPE

The Common and Corporate Services Division of the CBSA requires up to two (2) resources on an as required basis to assist with Commercial initiatives, more particularly with the eManifest initiative. On an as and when requested basis, through the issuance of Task Authorizations (TAs), the Contractor will:

- One IM Architect Level 3, working on large-scale DW/BI projects within an Information Technology (IT) Data Warehouse development environment, analyze existing capabilities and requirements; evaluate existing procedures and methods; identify and document database content, structure and application subsystems, and develop data dictionary; and define and document interfaces of manual to automated operations within application subsystems to external systems and between new and existing systems in support of the eManifest initiative and other priority initiatives.
- One Database Analyst Level 3, working on large-scale DW/BI projects within an Information Technology (IT) Data Warehouse development environment to work on large-scale Data Mining and Dimensional Data-Warehousing (modeling design principles of the Kimball Methodology, dimensional models integrated via conformed dimensions) in support of the eManifest initiative and other priority initiatives.

Further details are provided in the Resource Categories, Tasks and Deliverables section below.

Regardless of the Objective and Background sections above, should a requirement for work from another CBSA sector align with the tasks and deliverables of this contract, CBSA may, at its discretion, leverage resources from this contract to support and assist with that requirement.

4. TECHNICAL ENVIRONMENT

The Contractor shall provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.



The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM/zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) IBM Change Data Capture
- 12) SQL
- 13) XML
- 14) Microsoft Office Suite
- 15) JIRA
- 16) Wiki
- 17) Kimball Methodology

5. RESOURCE CATEGORIES, TASKS AND DELIVERABLES

5.1 RESOURCE 1 - IM ARCHITECT LEVEL 3

Each Task Authorization will specify the tasks to be completed. The Contractor may be required to perform, but not limited to, the following:

5.2.1 TASKS

- 5.2.1.1** Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration;
- 5.2.1.2** Develop and document detailed statements of requirements;
- 5.2.1.3** Develop and support the data architecture strategy for eManifest, based on situational awareness of various business and IT drivers.
- 5.2.1.4** Apply a structured business and data architecture approach and methodology for capturing the key views of the eManifest project.
- 5.2.1.5** Define linkage between data elements shared between eManifest and the Data Warehouse using the current Data Warehouse metadata toolset IBM InfoSphere Metadata Workbench and Business Glossary.
- 5.2.1.6** Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all eManifest pillars in traditional BI /Reporting.
- 5.2.1.7** Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge.
- 5.2.1.8** Liaise with pillar business and IT representatives to assess CBSA program needs.



- 5.2.1.9 Gather and define Business Intelligence solutions requirements.
- 5.2.1.10 Analyze and document eManifest Data Warehouse data within the current Data Warehouse metadata toolset - IBM InfoSphere Metadata Workbench and Business Glossary
- 5.2.1.11 Perform cost/benefit analysis of implementing new processes and solutions.
- 5.2.1.12 Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies.
- 5.2.1.13 Provide advice in defining new requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.
- 5.2.1.14 Analyze and document end user request for improvements or alterations.
- 5.2.1.15 Prepare briefing material and presentations for senior management.
- 5.2.1.16 Review and provide feedback on existing Architecture.
- 5.2.1.17 Communicate with stakeholders to define requirements.
- 5.2.1.18 Develop and coordinate internal policies and processes
- 5.2.1.19 Provide input into Data Warehouse Design decisions
- 5.2.1.20 Develop Complex SQL queries
- 5.2.1.21 Examine data available in existing data source and collect statistics about that data
- 5.2.1.22 Work within the Service Lifecycle Management Framework.

5.2.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.2.2.1 Each Task Authorization will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver, but not limited to, the following: Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting Solutions
- 5.2.2.2 Quality Assurance plans to guide testers
- 5.2.2.3 Options Analysis documents (as required)
- 5.2.2.4 Risk Dashboard business requirements document
- 5.2.2.5 Written and verbal summaries of meetings with stakeholders
- 5.2.2.6 Write documentation in support of TASKS above as required.



- 5.2.2.7 Please refer to section 5.3.1 Tasks for other deliverables.
- 5.2.2.8 Please refer to section 8. Reporting Requirements for progress reports

5.3 RESOURCE 2 - DATABASE ANALYST LEVEL 3

Each Task Authorization will specify the tasks to be completed. The Contractor may be required to perform, but not limited to, the following:

5.3.1 TASKS

- 5.3.1.1 Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data).
- 5.3.1.2 Provide support, develop and present DW/BI strategies, roadmaps and project plans.
- 5.3.1.3 Develop Complex SQL queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals and utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users.
- 5.3.1.4 Assist DBAs with BI/DW database performance and design related issues
- 5.3.1.5 Provide support to develop an Enterprise Data Warehouse Model; including logical model integration of data from multiple subject areas and use Kimball Methodology (dimensional models integrated via conformed dimensions).
- 5.3.1.6
- 5.3.1.7 Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements.
- 5.3.1.8 Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database.
- 5.3.1.9 Mediates and resolves conflicts among users' needs for data.
- 5.3.1.10 Advise programmers, analysts, and users about the efficient use of data
- 5.3.1.11 Provide input into Data Warehouse Design decisions
- 5.3.1.12 Examine data available in existing data source and collect statistics about that data
- 5.3.1.13 Write source to target mappings
- 5.3.1.14 Work within the Service Lifecycle Management Framework

5.3.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.



The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

Each Task Authorization will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver, but not limited to, the following:

- 5.3.2.1 Examine data available in existing data source and collect statistics and information about that data via data profiling.
- 5.3.2.2 Develop Complex SQL Queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals
- 5.3.2.3 Reconcile between source data and data within the data warehouse
- 5.3.2.4 Translate business requirements into specification documents
- 5.3.2.5 Provide input to Data Warehouse Database Design decisions
- 5.3.2.6 Write documentation in support of TASKS above as required.
- 5.3.2.7 Please refer to section 5.4.1 Tasks for other deliverables.
- 5.3.2.8 Please refer to section 8. Reporting Requirements for progress reports.

6. CONSTRAINTS

- 6.1 At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or link (e.g. VPN) be permitted;
- 6.2 The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

Each Task Authorization will identify any additional constraints if applicable. The number of resources may fluctuate up or down depending on operational requirements.

7. LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region (NCR) on-site at CBSA offices. The Resources may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract with no expenses incurred to CBSA.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available

The Contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario



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Each task authorization will identify the specific work location. While there is no travel expected in the conduct of the work, each Task Authorization will describe any travel, if required.

8. REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

9. LANGUAGE

The resources will be required to perform the work in English. Every individual proposed in its bid will be fluent in English. The individual(s) proposed must be able to communicate orally and in writing in English without any assistance and with minimal errors.

Each Task Authorization will identify the specific language requirements.

10. ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUC	Business Use Case
CBSA	Canada Border Services Agency
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
IDA	InfoSphere Data Architect
IM	Information Management
IT	Information Technology
SQL	Structured Query Language
UDB	Universal Database
VPN	Virtual Private Network
XML	Extensible Markup Language



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ANNEX A STATEMENT OF WORK

1. TITLE

Four (4) resources to assist with CBSA initiatives such as eManifest and potentially the Beyond the Border initiatives.

2. BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

eManifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

The Beyond the Border Action Plan sets out 32 initiatives that forward a perimeter approach to protect the security of Canada and the United States, and strengthen economic competitiveness in both countries by addressing threats early; facilitating trade, economic growth and jobs; integrating cross-border law enforcement; and ensuring there is a critical infrastructure and cyber security.

Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3. SCOPE

The Common and Corporate Services Division of the CBSA requires four (4) resources on an as required basis to assist with Commercial initiatives, more particularly with the eManifest initiative with the overall duration projected to be one year with the option to extend one more year. The four (4) resources and their scope are:

- One Technology Architect Level 2, within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One Technology Architect Level 3, within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One IM Architect Level 3, within an Information Technology (IT) Data Warehouse development environment, to analyze existing capabilities and requirements; evaluate existing procedures and methods, identify and document database content, structure and application subsystems, and develop data dictionary; and define and document interfaces of manual to automated operations within application subsystems to external systems and between new and existing systems in support of the eManifest initiative and other priority initiatives.
- One Database Analyst Level 3, within an Information Technology (IT) Data Warehouse development environment with at least 40 years experience, to work on large-scale Data Mining and Dimensional



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Data-Warehousing (modeling design principles of the Kimba Methodology, dimensional models integrated via conformed dimensions, in support of the eManifest initiative and other priority initiatives.

For more details, please refer to are provided in the Resource Categories, Tasks and Deliverables section below

4. TECHNICAL ENVIRONMENT

The Contractor will shall provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.

The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM/zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) IBM Change Data Capture
- 12) SQL
- 13) XML
- 14) Microsoft Office Suite
- 15) JIRA
- 16) Wiki

5. RESOURCE CATEGORIES, TASKS AND DELIVERABLES

5.1 RESOURCE 51 TECHNOLOGY ARCHITECT LEVEL 2

5.1.1 TASKS

- 5.1.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment;
- 5.1.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution.
- 5.1.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision;
- 5.1.1.4 Perform impact analysis by required due dates of applicable technology changes when requested.
- 5.1.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;



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- 5.1.1.6 Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders.
- 5.1.1.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation.
- 5.1.1.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.1.1.9 Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.1.1.10 Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or Industry standards when no CBSA standard exist.
- 5.1.1.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.1.1.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.1.1.13 Define and assist with ETL tool installation, configuration and integration strategies;
- 5.1.1.14 Automate data feeds from external, third party sources outside the CBSA organization as required;
- 5.1.1.15 Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.1.1.16 Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made.
- 5.1.1.17 Participate in ERWin and IDA model reviews;
- 5.1.1.18 Shred XML Data into relational tables using DataStage;
- 5.1.1.19 Develop and maintain an integrated ETL architecture;
- 5.1.1.20 Develop detailed development plans.
- 5.1.1.21 Perform code walkthroughs;
- 5.1.1.22 Develop ETL specifications and ETL design diagrams;
- 5.1.1.23 Define ETL metadata capture solution;
- 5.1.1.24 Define primary and secondary data captures strategies for internal and external data sources;
- 5.1.1.25 Provide advice to developers and designers;



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- 5.1.1.26 Coach, mentor and train ETL designers and developers to perform any of the above

Note: Usage of IBM WebSphere DataStage product line, used within a Data Warehouse and Business Intelligence environment.

Note: Usage of DataStage ETL frameworks and architectures for large scale data warehousing; Specialties include: IBM DataStage, UDB, DB2.

5.1.2 DELIVERABLES

The Contractor, through its resource provided under the contract must-sha-1 provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must-sha-1 be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.1.2.1 Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.1.2.2 Provide Option Analysis documents as requested by technical authority; in (Word, Excel or PDF) format.
- 5.1.2.3 Write documentation as required.
- 5.1.2.4 Please refer to section 5.1.1 Tasks for other deliverables.
- 5.1.2.5 Please refer to section 8 Reporting Requirements for progress reports.

5.2 RESOURCE 2 - TECHNOLOGY ARCHITECT LEVEL 3

5.2.1 TASKS

- 5.2.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment.
- 5.2.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution.
- 5.2.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision.
- 5.2.1.4 Perform impact analysis by required due dates of applicable technology changes when requested.



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- 5.2.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;
- 5.2.1.6 Review on-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders;
- 5.2.1.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation;
- 5.2.1.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.2.1.9 Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.2.1.10 Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or Industry standards when no CBSA standard exist;
- 5.2.1.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW) Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.2.1.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.2.1.13 Define and assist with ETL tool installation configuration and integration strategies;
- 5.2.1.14 Automate data feeds from external third party sources outside the CBSA organization as required;
- 5.2.1.15 Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.2.1.16 Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made;
- 5.2.1.17 Participate in ERW and IDA model reviews;
- 5.2.1.18 Shred XML Data into into relational tables using DataStage;
- 5.2.1.19 Develop and maintain an integrated ETL architecture;
- 5.2.1.20 Develop detailed development plans;
- 5.2.1.21 Perform code walkthroughs;
- 5.2.1.22 Develop ETL specifications and ETL design diagrams;
- 5.2.1.23 Define ETL metadata capture solution;
- 5.2.1.24 Define primary and secondary data captures strategies for internal and external data sources;



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5.2.1.25 Provide advice to developers and designers;

5.2.1.26 Coach, mentor and train ETL designers and developers to perform any of the above

Note: Knowledge of IBM WebSphereDataStage product line, used within a Data Warehouse and Business Intelligence environment.

Note: Knowledge of DataStage ETL frameworks and architectures for large scale data warehousing;
Specialties Include: IBM DataStage, UDB/DB2

5.2.2 DELIVERABLES

The Contractor, through its resource provided under the contract must-shall provide the following deliverables in an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must-shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

5.2.2.1 Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.

5.2.2.2 Provide Option Analysis documents as requested by technical authority; in (Word, Excel or PDF) format.

5.2.2.3 Write documentation as required

5.2.2.4 Please refer to SECTION 5.2.1 Tasks for other deliverables

5.2.2.5 Please refer to SEC. 10.1.8, Reporting Requirements for progress reports.

5.3 RESOURCE 3 - IIA ARCHITECT LEVEL 3

5.3.1 TASKS

5.3.1.1 Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration;

5.3.1.2 Develop and document detailed statements of requirements;

5.3.1.3 Develop and support the data architecture strategy for eManifest, based on situational awareness of various business and IT drivers

5.3.1.4 Apply a structured business and data architecture approach and methodology for capturing the key views of the eManifest project.



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- 5.3.1.5 Define linkage between data elements shared between eManifest and the Data Warehouse using the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.6 Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all eManifest pillars in traditional BI / Reporting.
- 5.3.1.7 Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge.
- 5.3.1.8 Liaise with pillar business and IT representatives to assess CBSA program needs.
- 5.3.1.9 Gather and define Business Intelligence solutions requirements.
- 5.3.1.10 Analyze and document eManifest Data Warehouse data within the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.11 Perform cost-benefit analysis of implementing new processes and solutions.
- 5.3.1.12 Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies.
- 5.3.1.13 Provide advice in defining new requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.
- 5.3.1.14 Analyze and document end-user request for improvements or alterations.
- 5.3.1.15 Prepare briefing material and presentations for senior management.
- 5.3.1.16 Review and provide feedback on existing Architecture.
- 5.3.1.17 Communicate with stakeholders to define requirements.
- 5.3.1.18 Develop and coordinate internal policies and processes.
- 5.3.1.19 Provide input into Data Warehouse Design decisions.
- 5.3.1.20 Develop Complex SQL queries.
- 5.3.1.21 Examine data available in existing data source and collect statistics about that data.
- 5.3.1.22 Work within the Service Lifecycle Management Framework.

5.3.2 DELIVERABLES

The Contractor, through its resource provided under the contract must shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must shall be completed in a manner acceptable to the Project Manager/Lead.



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The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager Lead.

- 5.3.2.1 Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting Solutions
- 5.3.2.2 Quality Assurance plans to guide testers
- 5.3.2.3 Options Analysis documents (as required)
- 5.3.2.4 Risk Dashboard business requirements document
- 5.3.2.5 Written and verbal summaries of meetings with stakeholders
- 5.3.2.6 Write documentation as required.
- 5.3.2.7 Please refer to section 5.3.1 Tasks for other deliverables.
- 5.3.2.8 Please refer to section 8, Reporting Requirements for progress reports.

5.4 RESOURCE 4 DATABASE ANALYST / IM ADMINISTRATOR LEVEL 3

5.4.1 TASKS

- 5.4.1.1 Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data).
- 5.4.1.2 Provide support, develop and present DW/BI strategies, roadmaps and project plans.
- 5.4.1.3 Develop Complex SQL queries and utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users.
- 5.4.1.4 Assist DBAs with BI/DW database performance and design related issues.
- 5.4.1.5 Provide support to develop an Enterprise Data Warehouse Model; including logical model integration of data from multiple subject areas.
- 5.4.1.6 Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements.
- 5.4.1.7 Develop and implement procedures that will ensure the accuracy, completeness and timeliness of data stored in the database.
- 5.4.1.8 Mediates and resolves conflicts among users' needs for data.
- 5.4.1.9 Advise programmers, analysts, and users about the efficient use of data.
- 5.4.1.10 Provide input into Data Warehouse Design decisions
- 5.4.1.11 Examine data available in existing data source and collect statistics about that data
- 5.4.1.12 Work within the Service Lifecycle Management Framework



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5.4.2 DELIVERABLES

The Contractor, through its resource provided under the contract ~~must~~ shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables ~~must~~ shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.4.2.1 Examine data available in existing data source and collect statistics and information about that data via data profiling.
- 5.4.2.2 Develop Complex SQL Queries
- 5.4.2.3 Reconcile between source data and data within the data warehouse
- 5.4.2.4 Translate business requirements into specification documents
- 5.4.2.5 Provide input to Data Warehouse Database Design decisions
- 5.4.2.6 Write documentation as required.
- 5.4.2.7 Please refer to section 5.4.1 Tasks for other deliverables.
- 5.4.2.8 Please refer to section 8, Reporting Requirements for progress reports.

6. CONSTRAINTS

- 6.1 At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or tunnel (e.g. VPN) be permitted;
- 6.2 The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

7. LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region (NCR) on site at CBSA offices. The Business Architect may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.



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The Contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

8. REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

9. LANGUAGE

The resources will be required to perform the work in English. Every individual proposed must be fluent in English. The individuals proposed must be able to communicate clearly and effectively in writing without any assistance and with no major errors.

10. ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUC	Business Use Case
CBSA	Canada Border Services Agency
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
DA	InfoSphere Data Architect
IM	Information Management
IT	Information Technology
SQL	Structured Query Language
UDB	Universal Database
VPN	Virtual Private Network
XML	Extensible Markup Language



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ATTACHMENT 4.1 - BID EVALUATION CRITERIA

Mandatory Technical Criteria (MT)				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.				
Mandatory Technical criterion not addressed will be considered as "Not Met".				
	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #1 - TECHNOLOGY ARCHITECT LEVEL 2				
MT1	The proposed resource must have a minimum of five (5) years 60 months out of the last 8 years within the last 96 months of relevant demonstrated experience as a Technology Architect working within a data warehouse Information Technology (T) Development Environment within an organization that has a minimum of 8,000 employees.			
MT2	The proposed resource must have a minimum of five (5) years 120 months of demonstrated experience within the last ten (10) years implementing data warehousing in an Extract, Transform and Load (ETL) environment			
MT3	The proposed resource must have a minimum of three (3) years 36 months of demonstrated experience within the last five (5) years 60 months using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System Example: Loading Mainframe, Sybase, SQL Server (or equivalent) source into a Data Warehouse environment.			
MT4	The proposed resource must have a minimum of three (3) years 36 months working of demonstrated experience within the last five (5) years 60 months scripting within a Unix environment.			
MT5	The proposed resource must have a minimum of two (2) years 24 months working of demonstrated experience within the last 60 months five (5) years with the IBM DB2 RDBMS (Relational Database Management System) in an IBM Infosphere DataStage environment			
MT6	The proposed resource must have a minimum of three (3) years 36 months working of demonstrated experience within the last 60 months five (5) years shredding XML data types into a Data Warehouse environment.			

Commented [MXD1]: Government
Federal/provincial/municipal and/or Private sector?

Commented [MXD2]: What is equivalent? This may be open to interpretation



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met"

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #2 - TECHNOLOGY ARCHITECT LEVEL 3				
MT1	The proposed resource must have a minimum of ten (10) years 20 months within the last 15 years 180 months of demonstrated experience as a Technology Architect working within a Data Warehouse Information Technology (IT) Development Environment within an organization that has a minimum of 8 000 employees			
MT2	The proposed resource must have a minimum of 120 months ten (10) years of demonstrated experience within the last 80 months 15 years implementing data warehousing in an Extract, Transform and Load (ETL) environment			
MT3	The proposed resource must have a minimum of eight (8) years 60 months of demonstrated experience within the last 96 months eight (8) years using IBM InfoSphere DataStage 8.0) or higher as the primary tool to acquire data from a Database Management System Example: Loading Mainframe, Sybase, SQL Server (or equivalent) source into a Data Warehouse environment.			
MT4	The proposed resource must have a minimum of five (5) years 60 months working of demonstrated experience within the last ten (10) years 120 months scripting within a Unix environment			
MT5	The proposed resource must have a minimum of four (4) years 48 months of demonstrated working experience within the last 60 months 7 years with the IBM DB2 RDBMS (Relational Database Management System) in a IBM InfoSphere DataStage environment			
MT6	The proposed resource must have a minimum of three (3) years 36 months of demonstrated working experience within the last 36 months 5 years 60 months shredding XML data types into a Data Warehouse environment			
MT7	The proposed resource must have a minimum of two (2) years 24 months of demonstrated experience within the last 36 months 5 years 60 months managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers.			



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met"

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #3 INFORMATION MANAGEMENT ARCHITECT LEVEL 3				
MT1	The proposed resource must have a minimum of ten (10) years <u>120 months of demonstrated</u> experience, within the last fifteen (15) years <u>180 months</u> , in demonstrating knowledge of data architecture principles within a Data Warehouse Information Technology (IT) Development Environment serving an organization that has a minimum of 8,000 employees.			
MT2	The proposed resource must have a minimum of five (5) years <u>60 months of demonstrated</u> experience within the last 10 years <u>120 months</u> performing for each of the following functions: MA2.1. Developing Business and System Use cases for business goals; MA2.2. Performing interviews and consultations with stakeholders for requirements gathering and analysis; MA2.3. Facilitating stakeholder workshops with a minimum of five (5) participants; MA2.4. Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate Bidders must demonstrate the minimum experience of five years for each criterion through relevant example projects.			
MT3	The proposed resource must have a minimum of ten (10) years <u>120 months of demonstrated</u> experience, within the last fifteen (15) years <u>180 months</u> , participating in the development of data models, policies and procedures			



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met".

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #4 DATABASE ANALYST / IM ADMINISTRATOR LEVEL 3				
MT1	<p>The proposed resource must have a minimum of 40-years <u>20 months</u> of ge nontrated experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an organization that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas:</p> <p>1) Providing input to Data Warehouse Database Design decisions</p> <p>2) Data Profiling</p> <p>3) Development of Complex SQL Queries</p>			
MT2	<p>The proposed resource must have a minimum of 5-years <u>60 months</u> of experience in the last 45-years <u>180 months</u> as-of demonstrated demonstrating experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions).</p>			



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Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.				
Point rated technical criterion not addressed will be given a score of zero				
	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #1 - TECHNOLOGY ARCHITECT LEVEL 2				
RT1	Points will be awarded where the proposed resource has experience within the last 60 ⁷² months working as an IBM Infosphere DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues. *Complex is defined as a job, script or routine which: 1) Has two or more join stages or transformer stages; and 2) Has data sources with two or more transformation rules	Demonstrated experience will be scored as follows: 1+ to 2 years ^{12 to 24 months} = 4 points 2+ to 3 years ^{25 to 36 months} = 8 points 3+ to 4 years ^{37 to 48 months} = 12 points 4+ to 5 years ^{49 to 60 months} = 16 points 5+ years ^{61+ months} = 20 points	Up to 20 points	
RT2	Points will be awarded where the proposed resource has experience related to MT3 over and above the minimum requirement of three ^{two} years 36 months out of the last 60 ⁷² months. The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System. Example: Loading Mainframe, Sybase, SQL Server (or equivalent) source into a Data Warehouse environment.	Demonstrated experience will be scored as follows: 3+ to 4 years ^{49 to 60 months} = 4 points 4+ to 5 years ^{61 to 72 months} = 8 points 5+ to 6 years ^{73 to 84 months} = 12 points 6+ to 7 years ^{85+ months} = 16 points 7+ to 8 years ^{85+ months} = 20 points	Up to 20 points	
RT3	Points will be awarded where the proposed resource has experience related to MT4 over and above the	Demonstrated experience will be scored as follows:	Up to 10 points	

Commented [MXD3]: MT3 is set for last 60 months. This changes the MT criterion

Commented [MXD4]: Further to Resource #1 Mandatory Criteria MT3, additional demonstrated experience will be evaluated

Commented [MXD5]: What is equivalent? This is open to interpretation.



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	<p>minimum requirement of three (3) years out of the last ten (10) years:</p> <p><i>MT4. The proposed resource must have a minimum of three (3) years of experience within the last five (5) years scripting within a Unix environment.</i></p>	<p>3+ to 4 years 37 to 48 months = 2 points 4+ to 5 years 49 to 60 months = 4 points 5+ to 6 years 61 to 72 months = 6 points 6+ to 7 years 73 to 84 months = 8 points 7+ to 10 years 85+ months = 10 points</p>		
RT4	<p>Points will be awarded where the proposed resource has experience related to MT6 over and above the minimum requirement of three (3) years out of the last ten (10) years.</p> <p>MT6: The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse environment.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>3+ to 4 years 37 to 48 months = 6 points 4+ to 5 years 49 to 60 months = 12 points 5+ to 6 years 61 to 72 months = 18 points 6+ to 7 years 73 to 84 months = 24 points 7+ to 10 years 85+ months = 30 points</p>	Up to 30 points	
RT5	<p>Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (10) years defining source, target and staging data repositories.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>1+ to 2 years 12 to 24 months = 2 points 2+ to 3 years 25 to 36 months = 4 points 3+ to 4 years 37 to 48 months = 6 points 4+ years 49+ months = 8 points</p>	Up to 8 points	
RT6	<p>Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (10) years, 20 months defining data transformation processes.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points</p>	Up to 8 points	
RT7	<p>Points will be awarded where the proposed resource has demonstrated experience as an</p>	<p>Demonstrated experience will be scored as follows:</p>	Up to 8 points	

Commented [MXD6]: Further to Resource #1 Mandatory Criteria MT4 additional demonstrated experience will be evaluated

Commented [MXD7]: MT4 is set for last 60 months. This changes the MT criterion

Commented [MXD8]: MT6 is set for last 60 months. This changes the MT criterion

Commented [MXD9]: Further to Resource #1 Mandatory Criteria MT6, additional demonstrated experience will be evaluated

Commented [MXD10]: What is defining? How do they define it?



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	ETL Architect within the last ten (10) years 20 months defining data movement schedules.	12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points			
RT8	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (10) years 20 months defining volumetric, hardware and software requirements and configurations.	Demonstrated experience will be scored as follows 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points	Up to 8 points		
RT9	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months (ten (10) years) developing ETL coding standards and ETL development best practices.	Demonstrated experience will be scored as follows 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points	Up to 8 points		
RT10	Points will be awarded where the proposed resource has demonstrated experience within the last ten (10) years 10 months developing ETL design guidelines.	Demonstrated experience will be scored as follows 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points	Up to 8 points		

Commented [MXD11]:
What is defining?
How do they define it?

Commented [MXD12]: What is defining?
How do they define it?



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RT11	Points will be awarded where the proposed resource has <u>demonstrated experience within the last 20 months and 10+ years</u> using ETL Source to Target Mapping documentation, and ETL High Level and Detailed ETL Design documentation, and IBM Infosphere Datastage Job documentation	Demonstrated experience will be scored as follows <u>12 to 24 months = 2 points</u> <u>25 to 36 months = 4 points</u> <u>37 to 48 months = 6 points</u> <u>49+ months = 8 points</u> <u>1+ years = 2 points</u> <u>2+ to 3 years = 4 points</u> <u>3+ to 4 years = 6 points</u> <u>4+ years = 8 points</u>	Up to 8 points	
Total points:		Up to 136 points	Minimum Threshold is 95 points. The proposed Resource must achieve at least the minimum threshold.	
Bidder's total points:			Commented [MXB13]: Cannot get 95.2 points as suggested Max is 70%	



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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #2 TECHNOLOGY ARCHITECT LEVEL 3				
RT1	Points will be awarded where each the proposed resource has demonstrated experience within the last 6 years/72 months working as an IBM InfoSphere DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues. *Complex is defined as a job, script or routine which: 1) Has two or more join stages and/or transformer stages; and 2) Has data sources with two or more transformation rules.	Demonstrated experience will be scored as follows: 1+ to 2 years 12 to 24 months = 4 points 2+ to 3 years 25 to 36 months = 8 points 3+ to 4 years 37 to 48 months = 12 points 4+ to 5 years 49 to 60 months = 16 points 5+ years 61+ months = 20 points	Up to 20 points	
RT2	Points will be awarded where the proposed resource has demonstrated experience within the last 8 years/96 months working as a DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System. Example: Loading database data source such as Mainframe, Sybase, SQL Server, DB2, Oracle (or other equivalent data source) source into a Data Warehouse environment.	Demonstrated experience will be scored as follows: 5+ to 6 years 61 to 72 months = 2 points 6+ to 7 years 73 to 84 months = 4 points 7+ to 8 years 85+ months = 6 points	Up to 6 points	



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RT3	<p>Further to Resource #2, Mandatory Criteria MT4, additional demonstrated experience will be awarded where the proposed resource has experience related to MT4 over and above the minimum requirement of five (5) years out of the last ten (10) years.</p> <p>MT4: The proposed resource must have a minimum of five (5) years working experience within the last ten (10) years scripting within a Unix environment.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>5+ to 6 years <u>51 to 72 months</u> = 2 points</p> <p>7 to 8 years <u>73 to 84 months</u> = 4 points</p> <p>8 to 9 years <u>85 to 96 months</u> = 6 points</p> <p>9 to 10 years <u>97 to 108 months</u> = 8 points</p> <p>10+ years <u>109 months</u> = 10 points</p>	Up to 10 points	
RT4	<p>Points will be awarded where the proposed resource has experience related to MT6 over and above the minimum requirement of three (3) years out of the last ten (10) years.</p> <p>MT6: The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse environment.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>3+ to 4 years <u>36 to 48 months</u> = 6 points</p> <p>4+ to 5 years <u>49 to 60 months</u> = 12 points</p> <p>5+ to 6 years <u>61 to 72 months</u> = 18 points</p> <p>6+ to 7 years <u>73 to 84 months</u> = 24 points</p> <p>7+ to 10 years <u>85 to 120 months</u> = 30 points</p>	Up to 30 points	
RT5	<p>Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (10) years, 120 months defining source, target and staging data repositories.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>1+ to 2 years <u>12 to 24 months</u> = 2 points</p> <p>2+ to 3 years <u>25 to 36 months</u> = 4 points</p> <p>3+ to 4 years <u>37 to 48 months</u> = 6 points</p> <p>4+ years <u>49 months</u> = 8 points</p>	Up to 8 points	
RT6	<p>Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (10) years, 120 months defining data transformation processes.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>12 to 24 months = 2 points</p> <p>25 to 36 months = 4 points</p> <p>37 to 48 months = 6 points</p> <p>49 months = 8 points</p> <p>2+ years = 2 points</p> <p>2+ to 3 years = 4 points</p>	Up to 8 points	

Commented [MXD14]: Further to Resource #2, Mandatory Criteria MT6, additional demonstrated experience will be evaluated.

Commented [MXD15]: MT6 is set for last 60 months. This changes the MT criterion. If you want to keep "within last 120 months" here, it will be a new criteria not referencing to the MT one or we keep the initial MT



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		3+ to 4 years = 6 points 4+ years = 8 points		
RT7	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (40+ years) 20 months defining data movement schedules.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1+ to 2 years = 6 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points	Up to 8 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (40+ years) 20 months defining volumetric, hardware and software requirements and configurations.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1+ to 2 years = 6 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points	Up to 8 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience within the last (20 months) ten (40+ years) developing ETL coding standards and ETL development best practices.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points 1+ to 2 years = 6 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points	Up to 8 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience within the last (20 months) ten (40+ years) developing ETL design guidelines.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points	Up to 8 points	

Commented [MXD16]: What is defining? How they define it?



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		<p>19+ months = 8 points</p> <p>14 to 18 years = 6 points</p> <p>12 to 13 years = 4 points</p> <p>9 to 11 years = 6 points</p> <p>4+ years = 3 points</p>		
RT11	<p>Points will be awarded where the proposed resource has demonstrated experience within the last 120 months ten+10+ years developing ETL Source to Target Mapping documentation, and ETL High Level and Detailed ETL Design documentation, and IBM Infosphere Datastage job documentation.</p>	<p>Demonstrated experience will be scored as follows.</p> <p>12 to 24 months = 2 points</p> <p>25 to 36 months = 4 points</p> <p>37 to 48 months = 6 points</p> <p>49+ months = 8 points</p> <p>14 to 18 years = 2 points</p> <p>19 to 23 years = 4 points</p> <p>24 to 28 years = 6 points</p> <p>29+ years = 8 points</p>	Up to 8 points	
RT12	<p>For the Resource #2 handling a term ETL solution, demonstrated experience will be evaluated. Points will be awarded where the proposed resource has experience over and above the required two years in mandatory criterion #5.</p> <p><i>The resource must have two years of experience within the last five years managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers.</i></p>	<p>Demonstrated experience will be scored as follows</p> <p>24 to 36 months = 2 points</p> <p>37 to 48 months = 4 points</p> <p>49 to 60 months = 6 points</p> <p>61 to 72 months = 8 points</p> <p>73+ months = 10 points</p>	Up to 10 points	
RT13	<p>The proposed resource must have experience within the last 40 years 120 months working on large-scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas:</p> <ol style="list-style-type: none"> 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries 	<p>Demonstrated experience will be scored as follows.</p> <p>4-year or less 12 months or less = 1 point</p> <p>4 to 13 years 13 to 36 months = 2 points</p> <p>14 to 18 years 37 to 60 months = 4 points</p> <p>19 to 23 years 61 to 84 months = 6 points</p> <p>24 to 28 years 85 to 108 months = 8 points</p> <p>29 to 33 years 109+ months = 10 points</p>	Up to 10 points	Commented [MXD17]: Please confirm if this is a mandatory criteria?



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RT14	The proposed resource has a CBIR Certification. Points will be awarded upon receipt of copy of CBIR certification.	10 points will be awarded if the bidder provides a resource with a certificate in English or French with its bid. Copy of CBIR certification - 10 points	Up to 10 points	
Total points:			Up to 10 points	Minimum Threshold is 100 points. The proposed Resource must achieve at least the minimum threshold.
Bidder's total points:				

Commented [MXD18]: Please define acronym



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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #3 - INFORMATION MANAGEMENT ARCHITECT LEVEL 3				
RT1	Points will be awarded where the proposed resource has demonstrated experience reviewing corporate architecture strategies and directions, and devising data subject areas to support them within the last 15 years 80 months.	Demonstrated experience will be scored as follows: 1+ to 2 years 12 to 24 months = 4 points 2+ to 3 years 25 to 36 months = 8 points 3+ to 4 years 37 to 48 months = 12 points 4+ to 5 years 49 to 60 months = 16 points 5+ years 61+ months = 20 points	Up to 20 points	
RT2	Points will be awarded where the proposed resource has demonstrated experience collaborating with Application Architects in contributing to business planning at the enterprise level within the last 15 years 80 months.	Demonstrated experience will be scored as follows: 3+ to 4 years 37 to 48 months = 4 points 4+ to 5 years 49 to 60 months = 8 points 5+ to 6 years 61 to 72 months = 12 points 6+ to 7 years 73 to 84 months = 16 points 7+ to 8 years 85+ months = 20 points	Up to 20 points	
RT3	Points will be awarded where the proposed resource has experience over and above the required 5 years in MT2 within the last 15 years. R3.1 Developing Business and System Use cases, R3.2 Performing One-on-one interviews and consultations R3.3 Facilitating stakeholder	Demonstrated experience will be scored as follows: 5+ to 6 years 61 to 72 months = 1 point 6+ years 73+ months = 2 points	Up to 2 points	

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Commented [MXD19] MT2 is set for last 120 months. This changes the MT criterion. If you want to keep "within last 180 months" here it will be a new criterion not referencing to the MT one or we keep the initial MT

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	<p>(internal & external) workshops</p> <p>R3.4 Developing and coordinating policies and processes</p> <p><i>MT2 The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months for each of the following functions</i></p> <p>1. Developing Business and System Use cases for business goals,</p> <p>2. Performing interviews and consultations with stakeholders for requirements gathering and analysis,</p> <p>3. Facilitating stakeholder workshops with a minimum of five (5) participants,</p> <p>4. Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate</p>			
RT4	<p>Points will be awarded where the proposed resource has demonstrated experience. The Contractor should demonstrate that the proposed resource has experience in identifying and addressing data quality and integrity issues to continually increase the value of information available to business users within the last fifteen years/180 months.</p>	<p>Demonstrated experience will be scored as follows</p> <p>3+ to 5 years/37 to 60 months = 2 points</p> <p>5+ to 7 years/61 to 84 months = 4 points</p> <p>7+ to 9 years/85 to 108 months = 6 points</p> <p>9+ to 10 years/109 to 120 months = 8 points</p> <p>10+ years/121+ months = 10 points</p>	Up to 10 points	
RT5	<p>Points will be awarded where the proposed resource has demonstrated experience defining linkages, providing analysis and documenting data elements utilizing a Data Warehouse metadata toolset consisting of IBM InfoSphere Metadata Workbench and Business Glossary within the last 7 years/84 months,</p>	<p>Demonstrated experience will be scored as follows.</p> <p>1-year/12 months or less = 1 point</p> <p>1+ to 2 years/13 to 24 months = 2 points</p> <p>2+ to 3 years/25 to 36 months = 4 points</p> <p>3+ to 4 years/37 to 48 months = 6 points</p> <p>4+ to 5 years/49 to 60 months = 8 points</p>	Up to 10 points	

Commented [MXD20]: Further to Resource #3 Mandatory Criteria MT2, additional demonstrated experience will be evaluated.

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		months = 8 points 5+ years-61+ months = 10 points		
RT6	Points will be awarded where the proposed resource has demonstrated experience. The evaluation should demonstrate that the proposed resource has experience with Enterprise Data Warehouse design and implementation within the last 10 years/120 months.	Demonstrated experience will be scored as follows: 4-year/2 months or less = 1 point 4+ to 2 years/13 to 24 months = 2 points 2+ to 3 years/25 to 36 months = 4 points 3+ to 4 years/37 to 48 months = 6 points 4+ to 5 years/49 to 60 months = 8 points 5+ years-61 months = 10 points	Up to 10 points	
RT7	The proposed resource must have experience within the last 10 years working on large scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas: 4) Providing input to Data Warehouse Database Design decisions 5) Data Profiling 6) Development of Complex SQL Queries	Demonstrated experience will be scored as follows: 4-year-or-less/2 months or less = 1 point 4+ to 3 years/13 to 36 months = 2 points 3+ to 5 years/37 to 60 months = 4 points 5+ to 4 years/61 to 72 months = 6 points 7+ to 9 years/73 to 108 months = 8 points 9+ to 10 years/109 to 120 months = 10 points	Up to 6 points	Commented [MXD22]: Please confirm if this is a mandatory criteria? Formatted: Highlight Formatted: Highlight Formatted: Highlight Formatted: Highlight Formatted: Highlight Formatted: Highlight Formatted: Highlight Formatted: Highlight Formatted: Highlight
RT8	The proposed resource has a CBIP Certification. Points will be awarded upon receipt of a copy of CBIP certificate.	10 points will be awarded if the Bidder provides a readable copy of the certificate in English or French or a CBIP Certificate of Recognition = 10 points	Up to 10 points	Commented [MXD23]: Please define acronym
Total points:			Up to 88 points	Minimum Threshold is 61 points. The proposed Resource must achieve at least the minimum threshold.
Bidder's total points:				

Point Rated Technical Criteria (RT) - Scores



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Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #4 DATABASE ANALYST LEVEL 3				
RT1	<p>The proposed resource should have experience over and above the required 10 years in mandatory criterion MT1 within the last 15 years:</p> <p><i>MT1. The proposed resource must have a minimum of 120 months of demonstrated experience as a Database Analyst working on large scale DW/BI projects within a Data Warehouse Development IT Environment within an organization that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas:</i></p> <ol style="list-style-type: none"> 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries 	<p>Demonstrated experience will be scored as follows</p> <p>10+ to 11 years <u>121 to 132 months</u> = 8 points</p> <p>11+ to 12 years <u>133 to 144 months</u> = 16 points</p> <p>12+ to 13 years <u>145 to 156 months</u> = 24 points</p> <p>13+ to 14 years <u>157 to 168 months</u> = 32 points</p> <p>14+ years <u>169+ months</u> = 40 points</p>	Up to 40 points	
RT2	<p>Further to Resource #4 MT1, a resource must have demonstrated experience over and above the required five (5) years' experience in mandatory criterion MT2:</p> <p><i>MT2. The proposed resource must have a minimum of 60 months of experience in the last 180 months of demonstrated experience with large scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions)</i></p>	<p>Demonstrated experience will be scored as follows</p> <p>5+ to 6 years <u>61 to 72 months</u> = 4 points</p> <p>6+ to 7 years <u>73 to 84 months</u> = 8 points</p> <p>7+ to 8 years <u>85 to 96 months</u> = 12 points</p> <p>8+ to 9 years <u>97 to 108 months</u> = 16 points</p> <p>9+ years <u>109+ months</u> = 20 points</p>	Up to 20 points	

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RT3	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in translating business requirements into specifications documents within the last 180 months.	Demonstrated experience will be scored as follows 1-year to 3 years 13 to 36 months = 2 points 3+ to 5 years 37 to 60 months = 4 points 5+ to 7 years 61 to 84 months = 6 points 7+ to 10 years 85 to 120 months = 8 points 10+ years 120 months = 10 points	Up to 10 points	
RT4	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in writing source to target mappings within the last 180 months/5 years.	Demonstrated experience will be scored as follows 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 84 months = 6 points 85 to 120 months = 8 points 120 months = 10 points 1-year to 3 years = 2 points 3+ to 5 years = 4 points 5+ to 7 years = 6 points 7+ to 10 years = 8 points 10+ years = 10 points	Up to 10 points	
RT5	Points will be awarded where the proposed resource has demonstrated experience with large-scale Data Warehouse projects as a Data Analyst addressing Business Intelligence/Data Warehouse (BI/DW) performance-related.	Demonstrated experience will be scored as follows 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points	Up to 6 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience providing input into the creation and/or maintenance of Dimensional Data Models in the last 60 months/5 years.	Demonstrated experience will be scored as follows 1 to 2 years 13 to 24 months = 4 points 2+ to 3 years 25 to 36 months = 8 points 3+ to 4 years 37 to 48 months = 12 points 4+ to 5 years 49 to 60 months = 16 points	Up to 20 points	

Commented [MXD26]: What is "Project Experience"?

Same question for below criteria.



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		months = 16 points 5+ years = 1+ months = 20 points		
RT7	Points will be awarded where the proposed resource has demonstrated experience. Points will be awarded for project experience using and developing DW applications using IBM InfoSphere DataStage in the last 60 months/5 years.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 4+ years = 6 points	Up to 6 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience. Points will be awarded for project experience using and developing DW applications using IBM DB2 in the last 60 months/5 years.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 4+ years = 6 points	Up to 6 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience. Points will be awarded for project experience using and developing DW applications using IBM Data Architect in the last 60 months/5 years.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 4+ years = 6 points	Up to 6 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience. Points will be awarded for project experience using and developing DW applications using IBM Cognos BI in the last 60 months/5 years.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points 1 to 2 years = 2 points 2+ to 3 years = 4 points 4+ years = 6 points	Up to 6 points	
RT11	Points will be awarded where the proposed resource has demonstrated experience. Points will be awarded for project experience using and developing	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points	Up to 6 points	



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	DW applications using IBM Puredata or PostgreSQL in the last 60 months-3 years.	24 months - 4 points 12 months - 2 points 24 to 36 months - 4 points 36 months - 6 points		
RT12	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications sourced from complex XML data structures in the last 60 months-3 years.	Demonstrated experience will be scored as follows: 1 to 2 years 13 to 24 months = 2 points 2 to 3 years 25 to 36 months = 4 points 3+ years 37 months = 6 points	Up to 6 points	
RT13	The proposed resource has a CBIP certification. Points will be awarded upon receipt of copy of CBIP certification.	20 points will be awarded for the B.C. or F.R. or the certificate in English or French will be a copy of CBIP certification = 20 points	Up to 20 points	
Total points:			Up to xxx points	Minimum Threshold is xx points. The proposed Resource must achieve at least the minimum threshold
Bidder's total points:				

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Commented [MXD27]: Please define acronym



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ANNEX A STATEMENT OF WORK

1. TITLE

Four (4) resources to assist with CBSA initiatives such as eManifest and potentially the Beyond the Border initiatives.

2. BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

eManifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

The Beyond the Border Action Plan sets out 32 initiatives that forward a perimeter approach to protect the security of Canada and the United States, and strengthen economic competitiveness in both countries by addressing threats early; facilitating trade, economic growth and jobs; integrating cross-border law enforcement; and ensuring there is a critical infrastructure and cyber security.

Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3. SCOPE

The Common and Corporate Services Division of the CBSA requires four (4) resources on an as required basis to assist with Commercial initiatives, more particularly with the eManifest initiative. The resources and their scope are:

- One Technology Architect Level 2, within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One Technology Architect Level 3, within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One IM Architect Level 3, within an Information Technology (IT) Data Warehouse development environment, to analyze existing capabilities and requirements; evaluate existing procedures and methods, identify and document database content, structure and application subsystems, and develop data dictionary; and define and document interfaces of manual to automated operations within application subsystems to external systems and between new and existing systems in support of the eManifest initiative and other priority initiatives.
- One Database Analyst Level 3, within an Information Technology (IT) Data Warehouse development environment to work on large scale Data Mining and Dimensional Data-Warehousing (modeling design



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principles of the Kimball Methodology, dimensional models integrated via conformed dimensions) in support of the eManifest initiative and other priority initiatives.

Further details are provided in the Resource Categories, Tasks and Deliverables section below.

4. TECHNICAL ENVIRONMENT

The Contractor shall provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.

The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM/zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) IBM Change Data Capture
- 12) SQL
- 13) XML
- 14) Microsoft Office Suite
- 15) JIRA
- 16) Wiki

5. RESOURCE CATEGORIES, TASKS AND DELIVERABLES

5.1 RESOURCE #1: TECHNOLOGY ARCHITECT LEVEL 2

5.1.1 TASKS

- 5.1.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment;
- 5.1.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution;
- 5.1.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision;
- 5.1.1.4 Perform impact analysis by required due dates of applicable technology changes when requested;
- 5.1.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;



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- 5.1.1.6 Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders;
- 5.1.1.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation;
- 5.1.1.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.1.1.9 Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.1.1.10 Develop ETL best practices, standards, templates and methodologies in a DataStage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or Industry standards when no CBSA standard exist;
- 5.1.1.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.1.1.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.1.1.13 Define and assist with ETL tool installation, configuration and integration strategies;
- 5.1.1.14 Automate data feeds from external, third party sources outside the CBSA organization as required;
- 5.1.1.15 Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.1.1.16 Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made;
- 5.1.1.17 Participate in ERWin and IDA model reviews;
- 5.1.1.18 Shred XML Data into relational tables using DataStage;
- 5.1.1.19 Develop and maintain an integrated ETL architecture;
- 5.1.1.20 Develop detailed development plans;
- 5.1.1.21 Perform code walkthroughs;
- 5.1.1.22 Develop ETL specifications and ETL design diagrams;
- 5.1.1.23 Define ETL metadata capture solution;
- 5.1.1.24 Define primary and secondary data captures strategies for internal and external data sources;
- 5.1.1.25 Provide advice to developers and designers;



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- 5.1.1.26 Coach, mentor and train ETL designers and developers to perform any of the above

Note: Usage of IBM WebSphere DataStage product line, used within a Data Warehouse and Business Intelligence environment.

Note: Usage of DataStage ETL frameworks and architectures for large scale data warehousing; Specialties include: IBM DataStage, UDB, DB2.

5.1.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.1.2.1 Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.1.2.2 Provide Option Analysis documents as requested by technical authority; in (Word, Excel or PDF) format.
- 5.1.2.3 Write documentation as required
- 5.1.2.4 Please refer to section 5.1.1 Tasks for other deliverables
- 5.1.2.5 Please refer to section 8. Reporting Requirements for progress reports.

5.2 RESOURCE 2 - TECHNOLOGY ARCHITECT LEVEL 3

5.2.1 TASKS

- 5.2.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment,
- 5.2.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution,
- 5.2.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision,
- 5.2.1.4 Perform impact analysis by required due dates of applicable technology changes when requested,



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- 5.2.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;
- 5.2.1.6 Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders;
- 5.2.1.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation;
- 5.2.1.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.2.1.9 Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.2.1.10 Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or industry standards when no CBSA standard exist;
- 5.2.1.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW) Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.2.1.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.2.1.13 Define and assist with ETL tool installation configuration and integration strategies;
- 5.2.1.14 Automate data feeds from external third party sources outside the CBSA organization as required;
- 5.2.1.15 Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.2.1.16 Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made;
- 5.2.1.17 Participate in ERW and IDA model reviews;
- 5.2.1.18 Shred XML Data into relational tables using DataStage;
- 5.2.1.19 Develop and maintain an integrated ETL architecture;
- 5.2.1.20 Develop detailed development plans;
- 5.2.1.21 Perform code walkthroughs;
- 5.2.1.22 Develop ETL specifications and ETL design diagrams;
- 5.2.1.23 Define ETL metadata capture solution;
- 5.2.1.24 Define primary and secondary data capture strategies for internal and external data sources;



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- 5.2.1.25 Provide advice to developers and designers;
- 5.2.1.26 Coach, mentor and train ETL designers and developers to perform any of the above

Note: Knowledge of IBM WebSphereDataStage product line, used within a Data Warehouse and Business Intelligence environment.

Note: Knowledge of DataStage ETL frameworks and architectures for large scale data warehousing.
Specialties Include: IBM DataStage, UDB/DB2

5.2.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.2.2.1 Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.2.2.2 Provide Option Analysis documents as requested by technical authority; in (Word, Excel or PDF) format.
- 5.2.2.3 Write documentation as required.
- 5.2.2.4 Please refer to section 5.2.1 Tasks for other deliverables.
- 5.2.2.5 Please refer to section 8, Reporting Requirements for progress reports.

5.3 RESOURCE 3 - IIA ARCHITECT LEVEL 3

5.3.1 TASKS

- 5.3.1.1 Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration;
- 5.3.1.2 Develop and document detailed statements of requirements;
- 5.3.1.3 Develop and support the data architecture strategy for eManifest, based on situational awareness of various business and IT drivers.
- 5.3.1.4 Apply a structured business and data architecture approach and methodology for capturing the key views of the eManifest project.



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- 5.3.1.5 Define linkage between data elements shared between eManifest and the Data Warehouse using the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.6 Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all eManifest pillars in traditional BI / Reporting.
- 5.3.1.7 Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge.
- 5.3.1.8 Liaise with pillar business and IT representatives to assess CBSA program needs.
- 5.3.1.9 Gather and define Business Intelligence solutions requirements.
- 5.3.1.10 Analyze and document eManifest Data Warehouse data within the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.11 Perform cost-benefit analysis of implementing new processes and solutions.
- 5.3.1.12 Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies.
- 5.3.1.13 Provide advice in defining new requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.
- 5.3.1.14 Analyze and document end-user request for improvements or alterations.
- 5.3.1.15 Prepare briefing material and presentations for senior management.
- 5.3.1.16 Review and provide feedback on existing Architecture.
- 5.3.1.17 Communicate with stakeholders to define requirements.
- 5.3.1.18 Develop and coordinate internal policies and processes.
- 5.3.1.19 Provide input into Data Warehouse Design decisions.
- 5.3.1.20 Develop Complex SQL queries.
- 5.3.1.21 Examine data available in existing data source and collect statistics about that data.
- 5.3.1.22 Work within the Service Lifecycle Management Framework.

5.3.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall, provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.



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The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager Lead

- 5.3.2.1 Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting Solutions
- 5.3.2.2 Quality Assurance plans to guide testers
- 5.3.2.3 Options Analysis documents (as required)
- 5.3.2.4 Risk Dashboard business requirements document
- 5.3.2.5 Written and verbal summaries of meetings with stakeholders
- 5.3.2.6 Write documentation as required.
- 5.3.2.7 Please refer to section 5.3.1 Tasks for other deliverables.
- 5.3.2.8 Please refer to section 8, Reporting Requirements for progress reports.

5.4 RESOURCE 4 DATABASE ANALYST / IM ADMINISTRATOR LEVEL 3

Commented [BL1]: Must IM Administrator be specified?

5.4.1 TASKS

- 5.4.1.1 Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data).
- 5.4.1.2 Provide support, develop and present DW/BI strategies, roadmaps and project plans.
- 5.4.1.3 Develop Complex SQL queries and utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users.
- 5.4.1.4 Assist DBAs with BI/DW database performance and design related issues.
- 5.4.1.5 Provide support to develop an Enterprise Data Warehouse Model; including logical model integration of data from multiple subject areas.
- 5.4.1.6 Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements.
- 5.4.1.7 Develop and implement procedures that will ensure the accuracy, completeness and timeliness of data stored in the database
- 5.4.1.8 Mediates and resolves conflicts among users' needs for data.
- 5.4.1.9 Advise programmers, analysts, and users about the efficient use of data.
- 5.4.1.10 Provide input into Data Warehouse Design decisions
- 5.4.1.11 Examine data available in existing data source and collect statistics about that data
- 5.4.1.12 Work within the Service Lifecycle Management Framework



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5.4.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.4.2.1 Examine data available in existing data source and collect statistics and information about that data via data profiling.
- 5.4.2.2 Develop Complex SQL Queries
- 5.4.2.3 Reconcile between source data and data within the data warehouse
- 5.4.2.4 Translate business requirements into specification documents
- 5.4.2.5 Provide input to Data Warehouse Database Design decisions
- 5.4.2.6 Write documentation as required.
- 5.4.2.7 Please refer to section 5.4.1 Tasks for other deliverables.
- 5.4.2.8 Please refer to section 8. Reporting Requirements for progress reports.

6. CONSTRAINTS

- 6.1 At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or tunnel (e.g. VPN), be permitted;
- 6.2 The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

7. LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region (NCR) on site at CBSA offices. The Resources may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract with no expenses incurred to CBSA.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.



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The Contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

8. REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

9. LANGUAGE

The resources will be required to perform the work in English. Every individual proposed in its bid will be fluent in English. The individual(s) proposed must be able to communicate orally and in writing in English without any assistance and with minimal errors.

10. ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUIC	Business Use Case
CBSA	Canada Border Services Agency
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
DA	InfoSphere Data Architect
IM	Information Management
IT	Information Technology
SQL	Structured Query Language
UDB	Universal Database
VPN	Virtual Private Network
XML	Extensible Markup Language



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ATTACHMENT 4.1 - BID EVALUATION CRITERIA

Mandatory Technical Criteria (MT)				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.				
Mandatory Technical criterion not addressed will be considered as "Not Met".				
	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #1 - TECHNOLOGY ARCHITECT LEVEL 2				
MT1	The proposed resource must have a minimum of 60 months with in the last 96 months of demonstrated experience as a Technology Architect working within a data warehouse Information Technology (IT) Development Environment within an organization that has a minimum of 8,000 employees.			
MT2	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months implementing data warehousing in an Extract, Transform and Load (ETL) environment.			
MT3	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System Example: Loading Mainframe, Sybase, SQL Server (or <u>data source</u> equivalent) source into a Data Warehouse environment.			
MT4	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months scripting within a Unix environment.			
MT5	The proposed resource must have a minimum of 24 months of demonstrated experience within the last 60 months with the IBM DB2 RDBMS (Relational Database Management System) in an IBM Infosphere DataStage environment			
MT6	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months shredding XML data types into a Data Warehouse environment			

Commented [MXD2]: Government
Federal/provincial/municipal and/or Private sector?

Commented [BL3]: Sector may be from any one stated.

Commented [MXD4]: What is equivalent? This may be open to interpretation



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met"

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #2 - TECHNOLOGY ARCHITECT LEVEL 3				
MT1	The proposed resource must have a minimum of 120 months within the last 180 months of demonstrated experience as a Technology Architect working within a Data Warehouse Information Technology (IT) Development Environment within an organization that has a minimum of 8,000 employees.			
MT2	The proposed resource must have a minimum of 120 months of demonstrated experience within the last 180 months implementing data warehousing in an Extract, Transform and Load (ETL) environment.			
MT3	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 96 months using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System. Example: Loading Mainframe, Sybase, SQL Server for <u>data source</u> equivalent to source into a Data Warehouse environment.			
MT4	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months scripting within a Unix environment.			
MT5	The proposed resource must have a minimum of 48 months of demonstrated experience within the last 72 months with the IBM DB2 RDBMS (Relational Database Management System) in a IBM Infosphere DataStage environment.			
MT6	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months shredding XML data types into a Data Warehouse environment.			
MT7	The proposed resource must have a minimum of 24 months of demonstrated experience within the last 60 months managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers.			



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met".

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #3 INFORMATION MANAGEMENT ARCHITECT LEVEL 3				
MT1	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last 180 months, in demonstrating knowledge of data architecture principles within a Data Warehouse Information Technology (IT) Development Environment serving an organization that has a minimum of 8,000 employees			
MT2	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months for each of the following functions: 1. Developing Business and System Use cases for business goals; 2. Performing interviews and consultations with stakeholders for requirements gathering and analysis; 3. Facilitating stakeholder workshops with a minimum of five (5) participants; 4. Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate.			
MT3	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last fifteen 180 months, participating in the development of data models, policies and procedures			



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met".

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #4 DATABASE ANALYST & IM ADMINISTRATOR LEVEL 3				
MT1	<p>The proposed resource must have a minimum of 120 months of demonstrated experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an organization that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas:</p> <p>1) Providing input to Data Warehouse Database Design decisions</p> <p>2) Data Profiling</p> <p>3) Development of Complex SQL Queries</p>			
MT2	<p>The proposed resource must have a minimum of 60 months of experience in the last 180 months of demonstrated experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions).</p>			

Commented [BL5]: Must we Include IM Administrator?



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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #1 - TECHNOLOGY ARCHITECT LEVEL 2				
RT1	Points will be awarded where the proposed resource has experience within the last 72 months working as an IBM Infosphere DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues. *Complex is defined as a job, script or routine which: 1) Has two or more join stages or transformer stages; and 2) Has data sources with two or more transformation rules.	Demonstrated experience will be scored as follows: 12 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT2	Further to Resource #1 - Mandatory Criteria MT3, additional demonstrated experience will be evaluated. Points will be awarded where the proposed resource has experience related to MT3 over and above the minimum requirement of three (3) years (36 months) out of the last eight (8) years (96 months). The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System. Example: Loading Mainframe, Sybase, SQL Server or <u>data source</u> equivalent into a Data Warehouse	Demonstrated experience will be scored as follows: 37 to 48 months = 4 points 49 to 60 months = 8 points 61 to 72 months = 12 points 73 to 84 months = 16 points 85+ months = 20 points	Up to 20 points	Commented [MXD6]: MT3 is set for last 60 months. This changes the MT criterion. Commented [MXD7]: Further to Resource #1 - Mandatory Criteria MT3, additional demonstrated experience will be evaluated. Commented [MXD8]: What is equivalent? This is open to interpretation.



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	environment.			
RT3	<p>Points will be awarded where the proposed resource has experience related to MT4 over and above the minimum requirement of three (3) years out of the last ten (10) years.</p> <p><i>MT4: The proposed resource must have a minimum of three (3) years of experience within the last five (5) years scripting within a Unix environment</i></p>	<p>Demonstrated experience will be scored as follows</p> <p>37 to 48 months = 2 points 49 to 60 months = 4 points 61 to 72 months = 6 points 73 to 84 months = 8 points 85+ months = 10 points</p>	Up to 10 points	<p>Commented [MXD9]: Further to Resource #1 - Mandatory Criteria MT4, additional demonstrated experience will be evaluated</p> <p>Commented [MXD10]: MT4 is set for last 60 months. This changes the MT criterion</p> <p>Commented [BL11]: Same comment as R2. Perhaps, we should not reference MT4 if it changes the MT4 criterion like stated.</p>
RT4	<p>Further to Resource #1 - Mandatory Criteria MT4, additional demonstrated experience will be evaluated. Points will be awarded where the proposed resource has experience related to MT6 over and above the minimum requirement of three (3) years out of the last ten (10) years.</p> <p><i>MT6: The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse environment.</i></p>	<p>Demonstrated experience will be scored as follows</p> <p>37 to 48 months = 6 points 49 to 60 months = 12 points 61 to 72 months = 18 points 73 to 84 months = 24 points 85+ months = 30 points</p>	Up to 30 points	<p>Commented [MXD12]: MT6 is set for last 60 months. This changes the MT criterion</p> <p>Commented [MXD13]: Further to Resource #1 - Mandatory Criteria MT6, additional demonstrated experience will be evaluated</p> <p>Commented [BL14]: Same as previous comments, I like the recommendation and added it. I agree to delete as previously stated with new wording in place</p>
RT5	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last ten (10) years defining source, target and staging data repositories.	<p>Demonstrated experience will be scored as follows</p> <p>12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points</p>	Up to 8 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining data transformation processes.	<p>Demonstrated experience will be scored as follows</p> <p>12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points</p>	Up to 8 points	<p>Commented [BL15]: As in describing or outlining</p> <p>Commented [MXD16]: What is defining? How do they define it?</p>
RT7	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining data movement schedules.	<p>Demonstrated experience will be scored as follows</p> <p>12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points</p>	Up to 8 points	<p>Commented [BL17]: As in describing or outlining</p> <p>Commented [MXD18]: What is defining? How do they define it?</p>



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		49+ months = 8 points		
RT8	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining volumetric, hardware and software requirements and configurations.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL coding standards and ETL development best practices.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL design guidelines.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT11	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months using ETL Source to Target Mapping documentation, and ETL High Level and Detailed ETL Design documentation, and BM .infosphere Datastage job documentation	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
Total points:			Up to 136 points	Minimum Threshold is 95 points. The proposed Resource must achieve at least the minimum threshold
Bidder's total points:				

Commented [BL19]: As in describing or outlining

Commented [MXD20]: What is defining?
How do they define it?

Commented [BL21]: That's fine. It was what was there originally. previous procurement officer said that because 70% is 95.2 points, 95.2 points must be put to avoid any confusion even though you cannot get 95.2 points. I am fine with either way

Commented [MXD22]: Cannot get 95.2 points as suggested

Max is 70%



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Point Rated Technical Criteria (RT) - Scores

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Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #2 TECHNOLOGY ARCHITECT LEVEL 3				
RT1	Points will be awarded where the proposed resource has demonstrated experience within the 72 months working as an IBM InfoSphere DataStage ETL Architect in a Data Warehousing environment developing complex ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues. *Complex is defined as a job, script or routine which: 1) Has two or more join stages and/or transformer stages; and 2) Has data sources with two or more transformation rules.	Demonstrated experience will be scored as follows: 12 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT2	Further to Resource #2 - Mandatory Criteria MT3, additional demonstrated experience will be evaluated. <i>MT3: The proposed resource must have a minimum of five(5) years of experience within the last eight (8) years using IBM DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System.</i> <i>Example: Loading database data source such as Mainframe, Sybase, SQL Server, DB2, Oracle (or other equivalent data source) source into a Data Warehouse environment.</i>	Demonstrated experience will be scored as follows: 61 to 72 months = 2 points 73 to 84 months = 4 points 85+ months = 6 points	Up to 6 points	
RT3	Further to Resource #2 - Mandatory Criteria MT4, additional demonstrated experience will be evaluated.	Demonstrated experience will be scored as follows: 61 to 72 months = 2 points	Up to 10 points	



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	MT4: The proposed resource must have a minimum of five (5) years working experience within the last ten (10) years scripting within a Unix environment	73 to 84 months = 4 points 85 to 96 months = 6 points 97 to 108 months = 8 points 109+ months = 10 points		
RT4	Further to Resource 12 MT6: The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse environment.	Demonstrated experience will be scored as follows: 36 to 48 months = 6 points 49 to 60 months = 12 points 61 to 72 months = 18 points 61 to 84 months = 24 points 85 to 120 months = 30 points	Up to 30 points	
RT5	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining source, target and staging data repositories.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining data transformation processes.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining data movement schedules.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining volumetric, hardware and software requirements and configurations.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	

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Commented [MXD24]: What is defining? How they define it?



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RT9	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL coding standards and ETL development best practices.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL design guidelines.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT11	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL Source to Target Mapping documentation, and ETL High Level and Detailed ETL Design documentation, and IBM InfoSphere Datastage job documentation.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT12	Further to Resource #2 Mandatory Criteria MTS, <u>acquiring, developing, and</u> experience will be evaluated. <i>The resource must have two years of experience within the last five years managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers.</i>	Demonstrated experience will be scored as follows: 25 to 36 months = 2 points 37 to 48 months = 4 points 49 to 60 months = 6 points 61 to 72 months = 8 points 73+ months = 10 points	Up to 10 points	
RT13	The proposed resource has a Certified Business Intelligence Professional (CBIP) Certification.	10 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid.	Up to 10 points	
RT14	<u>Points will be awarded where the proposed resource has experience within the last 10 years working on large scale</u>	<u>Demonstrated experience will be scored as follows:</u> <u>12 months or less = 1 point</u>	<u>Up to 10 points</u>	

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	<p><u>DW: B. projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas:</u></p> <p><u>4) Providing input to Data Warehouse Database Design decisions</u></p> <p><u>5) Data Profiling</u></p> <p><u>6) Development of Complex SQL Queries</u></p>	<p><u>13 to 36 months = 2 points</u></p> <p><u>37 to 60 months = 4 points</u></p> <p><u>61 to 72 months = 6 points</u></p> <p><u>73 to 108 months = 8 points</u></p> <p><u>109+ months = 10 points</u></p>		
Total points:	Up to 152 points	Minimum Threshold is 106 points. The proposed Resource must achieve at least the minimum threshold		
Bidder's total points:				Minimum Threshold is 106 points. The proposed Resource must achieve at least the minimum threshold.



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Point Rated Technical Criteria (RT) - Scores				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.				
Point rated technical criterion not addressed will be given a score of zero.				
	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #3 - INFORMATION MANAGEMENT ARCHITECT LEVEL 3				
RT1	Points will be awarded where the proposed resource has demonstrated experience reviewing corporate architecture strategies and directions, and devising data subject areas to support them within the 180 months.	Demonstrated experience will be scored as follows: 12 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT2	Points will be awarded where the proposed resource has demonstrated experience collaborating with Application Architects in contributing to business planning at the enterprise level within the 180 months.	Demonstrated experience will be scored as follows: 36 to 48 months = 4 points 49 to 60 months = 8 points 61 to 72 months = 12 points 73 to 84 months = 16 points 85+ months = 20 points	Up to 20 points	
RT3	Further to Resource #3 - Mandatory Criteria MT2, additional demonstrated experience will be evaluated. R3.1 Developing Business and System Use cases; R3.2 Performing One-on-one interviews and consultations R3.3 Facilitating stakeholder (internal & external) workshops R3.4 Developing and coordinating policies and processes <i>MT2 The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months for each of the following functions.</i>	Demonstrated experience will be scored as follows: 61 to 72 months = 1 point 73+ months = 2 points	Up to 2 points	

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Commented [MXD25] Further to Resource #3 Mandatory Criteria MT2, additional demonstrated experience will be evaluated.



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	<p>1. Developing Business and System Use cases for business goals.</p> <p>2. Performing Interviews and consultations with stakeholders for requirements gathering and analysis.</p> <p>3. Facilitating stakeholder workshops with a minimum of five (5) participants;</p> <p>4. Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate</p>			
RT4	Points will be awarded where the proposed resource has demonstrated experience in identifying and addressing data quality and integrity issues to continually increase the value of information available to business users within the last 180 months.	<p>Demonstrated experience will be scored as follows:</p> <p>37 to 60 months = 2 points</p> <p>61 to 84 months = 4 points</p> <p>85 to 108 months = 6 points</p> <p>109 to 120 months = 8 points</p> <p>121+ months = 10 points</p>	Up to 10 points	
RT5	Points will be awarded where the proposed resource has demonstrated experience defining linkages, providing analysis and documenting data elements utilizing a Data Warehouse metadata toolset consisting of IBM InfoSphere Metadata Workbench and Business Glossary within the last 84 months.	<p>Demonstrated experience will be scored as follows:</p> <p>12 months or less = 1 points</p> <p>13 to 24 months = 2 points</p> <p>25 to 36 months = 4 points</p> <p>37 to 48 months = 6 points</p> <p>49 to 60 months = 8 points</p> <p>61+ months = 10 points</p>	Up to 10 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience with Enterprise Data Warehouse design and implementation within the last 120 months.	<p>Demonstrated experience will be scored as follows:</p> <p>12 months or less = 1 points</p> <p>13 to 24 months = 2 points</p> <p>25 to 36 months = 4 points</p> <p>37 to 48 months = 6 points</p> <p>49 to 60 months = 8 points</p> <p>61 months = 10 points</p>	Up to 10 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience with the proposed resource must have	<p>Demonstrated experience will be scored as follows:</p> <p>12 months or less = 1 point</p>	Up to 6 points	

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	experience within the last 10 years working on large scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas: 4) Providing input to Data Warehouse Database Design decisions 5) Data Profiling 6) Development of Complex SQL Queries	13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 72 months = 6 points 73 to 108 months = 8 points 108+ months = 10 points		
RT8	The proposed resource has a <u>Certified Business Intelligence Professional</u> (CBIP) Certification.	10 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid	Up to 10 points	
Total points:			Up to 88 points	Minimum Threshold is 61 points. The proposed Resource must achieve at least the minimum threshold.
Bidder's total points:				

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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #4 - DATABASE ANALYST LEVEL 3				
RT1	Further to Resource #4 Mandatory Criteria MT1, additional demonstrated experience will be evaluated. The proposed resource should have experience over and above the required 10 years in mandatory criterion MT1 within the last 15 years. MT1 The proposed resource must have a minimum of 120 months of demonstrated experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an	Demonstrated experience will be scored as follows 121 to 132 months = 8 points 133 to 144 months = 16 points 145 to 156 months = 24 points 157 to 168 months = 32 points 169+ months = 40 points	Up to 40 points	

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Commented [MXD29]: MT1 is not set "within last 180 months" This changes the MT criterion. If you want to keep "within last 180 months" here, it will be a new criteria not referencing to the MT one or we keep the initial MT

Commented [MXD30]: Further to Resource #4 Mandatory Criteria MT1, additional demonstrated experience will be evaluated.



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	<p>organization that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas</p> <p>1) Providing input to Data Warehouse Database Design decisions</p> <p>2) Data Profiling</p> <p>3) Development of Complex SQL Queries</p>			
RT2	<p>Further to resource #4 Mandate #2, the MT2, additional demonstration experience will be evaluated. The proposed resource should have experience over and above the required five (5) years experience in mandatory criterion MT2:</p> <p>MT2. The proposed resource must have a minimum of 60 months of experience in the last 180 months of demonstrated experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions).</p>	<p>Demonstrated experience will be scored as follows:</p> <p>61 to 72 months = 4 points</p> <p>73 to 84 months = 8 points</p> <p>85 to 96 months = 12 points</p> <p>97 to 108 months = 16 points</p> <p>109+ months = 20 points</p>	Up to 20 points	
RT3	<p>Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in translating business requirements into specifications documents within the last 180 months.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>13 to 36 months = 2 points</p> <p>37 to 60 months = 4 points</p> <p>61 to 84 months = 6 points</p> <p>85 to 120 months = 8 points</p> <p>120 months = 10 points</p>	Up to 10 points	
RT4	<p>Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in writing source to target mappings within the last 180 months.</p>	<p>Demonstrated experience will be scored as follows:</p> <p>13 to 36 months = 2 points</p> <p>37 to 60 months = 4 points</p> <p>61 to 84 months = 6 points</p> <p>85 to 120 months = 8 points</p> <p>120 months = 10 points</p>	Up to 10 points	
RT5	<p>Points will be awarded where the proposed resource has</p>	<p>Demonstrated experience will be scored as follows:</p>	Up to 6 points	



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	demonstrated experience with large scale Data Warehouse projects as a Data Analyst addressing Business Intelligence Data Warehouse (BI/DW) performance-related.	13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points		
RT6	Points will be awarded where the proposed resource has demonstrated experience providing input into the creation and/or maintenance of Dimensional Data Models in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM InfoSphere DataStage in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM DB2 in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Data Architect in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Cognos BI in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT11	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Puredata or PostgreSQL in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	



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RT12	Points will be awarded where the proposed resource has demonstrated experience using and developing BW applications sourced from complex XML data structures in the last 60 months.	Demonstrated experience will be scored as follows 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT13	The proposed resource has a <u>Certified Business Intelligence Professional</u> (CBIP) Certification.	20 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid.	Up to 20 points	
Total points:			Up to 3000 162 points	Minimum Threshold is 100 113 points. The proposed Resource must achieve at least the minimum threshold
Bidder's total points:				

Commented [MXD31]: Why this one is 20 points and the other above are 10 points?

Commented [BL32]: It is more important that this resource has certification than others, hence 20 points as opposed to 10 points.



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ANNEX A STATEMENT OF WORK

1. TITLE

Four (4) resources to assist with CBSA initiatives such as eManifest and potentially the Beyond the Border initiatives.

2. BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

eManifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

The Beyond the Border Action Plan sets out 32 initiatives that forward a perimeter approach to protect the security of Canada and the United States, and strengthen economic competitiveness in both countries by addressing threats early; facilitating trade, economic growth and jobs; integrating cross-border law enforcement; and ensuring there is a critical infrastructure and cyber security.

Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3. SCOPE

The Common and Corporate Services Division of the CBSA requires four (4) resources on an as required basis to assist with Commercial initiatives, more particularly with the eManifest initiative. ~~The resources and their scope are:~~ On an as and when requested basis, through the issuance of Task Authorizations, TAs, the ~~scope are:~~ scope are:

- One Technology Architect Level 2, within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One Technology Architect Level 3, within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One IA Architect Level 3, within an Information Technology (IT) Data Warehouse development environment, to analyze existing capabilities and requirements; evaluate existing procedures and methods, identify and document database content, structure and application subsystems, and develop data dictionary; and define and document interfaces of manual to automated operations within application subsystems to external systems and between new and existing systems in support of the eManifest initiative and other priority initiatives.
- One Database Analyst Level 3, within an Information Technology (IT) Data Warehouse development environment to work on large scale Data Mining and Dimensional Data Warehousing (modeling design



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principles of the Kimball Methodology, dimensional models integrated via conformed dimensions) in support of the eManifest initiative and other priority initiatives.

Further details are provided in the Resource Categories, Tasks and Deliverables section below.

Regarding the Objective and Background sections above, the requirement for work from a number of CBSA sector align with the tasks and deliverables of this contract. CBSA may use its discrete in-house resources from this contract to support and assist with the requirements.

4. TECHNICAL ENVIRONMENT

The Contractor shall provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.

The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) IBM Change Data Capture
- 12) SQL
- 13) XML
- 14) Microsoft Office Suite
- 15) JIRA
- 16) Wiki

5. RESOURCE CATEGORIES, TASKS AND DELIVERABLES

5.1 RESOURCE 1 - TECHNOLOGY ARCHITECT LEVEL 2

Each Task Authorization will specify the tasks to be completed. The Contractor may be required to perform but not limited to the following:

5.1.1 TASKS

- 5.1.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment,
- 5.1.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution,
- 5.1.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision,



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- 5.1.1.4 Perform impact analysis by required due dates of applicable technology changes when requested
- 5.1.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;
- 5.1.1.6 Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders;
- 5.1.1.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation;
- 5.1.1.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.1.1.9 Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.1.1.10 Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or industry standards when no CBSA standard exist
- 5.1.1.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.1.1.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.1.1.13 Define and assist with ETL tool installation, configuration and integration strategies;
- 5.1.1.14 Automate data feeds from external third party sources outside the CBSA organization as required;
- 5.1.1.15 Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.1.1.16 Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made
- 5.1.1.17 Participate in ERWin and IDA model reviews;
- 5.1.1.18 Shred XML Data into relational tables using DataStage;
- 5.1.1.19 Develop and maintain an integrated ETL architecture;
- 5.1.1.20 Develop detailed development plans
- 5.1.1.21 Perform code walkthroughs;
- 5.1.1.22 Develop ETL specifications and ETL design diagrams;
- 5.1.1.23 Define ETL metadata capture solution;



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- 5.1.1.24 Define primary and secondary data captures strategies for Internal and external data sources;
- 5.1.1.25 Provide advice to developers and designers;
- 5.1.1.26 Coach, mentor and train ETL designers and developers to perform any of the above.

Note: Usage of IBM WebSphere DataStage product line, used within a Data Warehouse and Business intelligence environment

Note: Usage of DataStage ETL frameworks and architectures for large scale data warehousing, Specialties include IBM DataStage, UDB/DB2.

5.1.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

Each Task Authorization will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver, but not limited to, the following:

- 5.1.2.1 Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.1.2.2 Provide Option Analysis documents as requested by technical authority, in (Word, Excel or PDF) format.
- 5.1.2.3 Write documentation as required.
- 5.1.2.4 Please refer to section 5.1.1 Tasks for other deliverables.
- 5.1.2.5 Please refer to section 8 Reporting Requirements for progress reports.

Commented [MXD1]: What documentation?

5.2 RESOURCE 2: TECHNOLOGY ARCHITECT LEVEL 3

Each Task Authorization will specify the tasks to be completed. The Contractor may be required to perform, but not limited to, the following:

5.2.1 TASKS



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- 5.2.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment;
- 5.2.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution;
- 5.2.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision;
- 5.2.1.4 Perform impact analysis by required due dates of applicable technology changes when requested;
- 5.2.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure;
- 5.2.1.6 Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders;
- 5.2.1.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation;
- 5.2.1.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse);
- 5.2.1.9 Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse;
- 5.2.1.10 Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or industry standards when no CBSA standard exist;
- 5.2.1.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology;
- 5.2.1.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC;
- 5.2.1.13 Define and assist with ETL tool installation configuration and integration strategies;
- 5.2.1.14 Automate data feeds from external third party sources outside the CBSA organization as required;
- 5.2.1.15 Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework;
- 5.2.1.16 Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made;
- 5.2.1.17 Participate in ERWin and IDA model reviews;
- 5.2.1.18 Shred XML Data into relational tables using DataStage;



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- 5.2.1.19 Develop and maintain an integrated ETL architecture;
- 5.2.1.20 Develop detailed development plans.
- 5.2.1.21 Perform code walkthroughs;
- 5.2.1.22 Develop ETL specifications and ETL design diagrams;
- 5.2.1.23 Define ETL metadata capture solution,
- 5.2.1.24 Define primary and secondary data captures strategies for internal and external data sources;
- 5.2.1.25 Provide advice to developers and designers;
- 5.2.1.26 Coach, mentor and train ETL designers and developers to perform any of the above

Note: Knowledge of IBM WebSphereDataStage product line, used within a Data Warehouse and Business intelligence environment.

Note: Knowledge of DataStage ETL frameworks and architectures for large scale data warehousing;
Specialties Include: IBM DataStage, UDB/DB2

5.2.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

The Contractor will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver, but not limited to, the following:

- 5.2.2.1 Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.2.2.2 Provide Option Analysis documents as requested by technical authority, in (Word, Excel or PDF) format.
- 5.2.2.3 Write documentation as required.
- 5.2.2.4 Please refer to section 5.2.1 Tasks for other deliverables
- 5.2.2.5 Please refer to section 8. Reporting Requirements for progress reports.

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5.3 RESOURCE 3 - IM ARCHITECT LEVEL 3

Each Task Authorization will specify the tasks to be completed. The Contractor may be required to perform duties related to the following:

5.3.1 TASKS

- 5.3.1.1 Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration;
- 5.3.1.2 Develop and document detailed statements of requirements;
- 5.3.1.3 Develop and support the data architecture strategy for eManifest, based on situational awareness of various business and IT drivers.
- 5.3.1.4 Apply a structured business and data architecture approach and methodology for capturing the key views of the eManifest project
- 5.3.1.5 Define linkage between data elements shared between eManifest and the Data Warehouse using the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.6 Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all eManifest pillars in traditional BI / Reporting.
- 5.3.1.7 Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge.
- 5.3.1.8 Liaise with pillar business and IT representatives to assess CBSA program needs
- 5.3.1.9 Gather and define Business Intelligence solutions requirements.
- 5.3.1.10 Analyze and document eManifest Data Warehouse data within the current Data Warehouse metadata toolset - IBM Infosphere Metadata Workbench and Business Glossary.
- 5.3.1.11 Perform cost/benefit analysis of implementing new processes and solutions.
- 5.3.1.12 Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies.
- 5.3.1.13 Provide advice in defining new requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.
- 5.3.1.14 Analyze and document end-user request for improvements or alterations.
- 5.3.1.15 Prepare briefing material and presentations for senior management
- 5.3.1.16 Review and provide feedback on existing Architecture
- 5.3.1.17 Communicate with stakeholders to define requirements.
- 5.3.1.18 Develop and coordinate internal policies and processes



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- 5.3.1.19 Provide input into Data Warehouse Design decisions
- 5.3.1.20 Develop Complex SQL queries
- 5.3.1.21 Examine data available in existing data source and collect statistics about that data
- 5.3.1.22 Work within the Service Lifecycle Management Framework.

5.3.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

Each Task Authorization will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver not limited to the following:

- 5.3.2.1 Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting Solutions
- 5.3.2.2 Quality Assurance plans to guide testers
- 5.3.2.3 Options Analysis documents (as required)
- 5.3.2.4 Risk Dashboard business requirements document
- 5.3.2.5 Written and verbal summaries of meetings with stakeholders
- 5.3.2.6 Write documentation (as required).
- 5.3.2.7 Please refer to section 5.3.1 Tasks for other deliverables
- 5.3.2.8 Please refer to section 8 Reporting Requirements for progress reports.

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5.4 RESOURCE 4 DATABASE ANALYST LEVEL 3

Each Task Authorization will specify the tasks to be completed. The Contractor will be expected to perform the following:

5.4.1 TASKS

- 5.4.1.1 Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data).



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- 5.4.1.2 Provide support, develop and present DW/BI strategies, roadmaps and project plans.
- 5.4.1.3 Develop Complex SQL queries and utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users.
- 5.4.1.4 Assist DBAs with BI/DW database performance and design related issues.
- 5.4.1.5 Provide support to develop an Enterprise Data Warehouse Model; including logical model integration of data from multiple subject areas.
- 5.4.1.6 Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements.
- 5.4.1.7 Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database.
- 5.4.1.8 Mediates and resolves conflicts among users' needs for data.
- 5.4.1.9 Advise programmers, analysts, and users about the efficient use of data.
- 5.4.1.10 Provide input into Data Warehouse Design decisions.
- 5.4.1.11 Examine data available in existing data source and collect statistics about that data.
- 5.4.1.12 Work within the Service Lifecycle Management Framework.

5.4.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

Each Task Authorization will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver, but not limited to, the following:

- 5.4.2.1 Examine data available in existing data source and collect statistics and information about that data via data profiling.
- 5.4.2.2 Develop Complex SQL Queries
- 5.4.2.3 Reconcile between source data and data within the data warehouse
- 5.4.2.4 Translate business requirements into specification documents



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5.4.2.5 Provide input to Data Warehouse Database Design decisions

5.4.2.6 Write documentation as required.

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5.4.2.7 Please refer to section 5.4.1 Tasks for other deliverables

5.4.2.8 Please refer to section 8 Reporting Requirements for progress reports

6. CONSTRAINTS

6.1 At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or tunnel (e.g. VPN), be permitted;

6.2 The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

Each Task Authorization will identify any additional constraints if applicable. The number of resources may fluctuate as per project needs and will be subject to change.

7. LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region (NCR) on site at CBSA offices. The Resources may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract with no expenses incurred to CBSA.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.

The Contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

Each Task Authorization will identify the specific work location. There is no travel expected and no travel costs for work. Each Task Authorization may describe any travel if required.

8. REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

9. LANGUAGE

The resources will be required to perform the work in English. Every individual proposed in its bid will be fluent in English. The individual(s) proposed must be able to communicate orally and in writing in English without any assistance and with minimal errors.



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Each Task Authorization will identify the specific language requirements.

10. ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUC	Business Use Case
CBSA	Canada Border Services Agency
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
DA	InfoSphere Data Architect
IM	Information Management
IT	Information Technology
SQL	Structured Query Language
UDB	Universal Database
VPN	Virtual Private Network
XML	Extensible Markup Language



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ATTACHMENT 4.1 - BID EVALUATION CRITERIA

Mandatory Technical Criteria (MT)				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.				
Mandatory Technical criterion not addressed will be considered as "Not Met"				
	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #1 - TECHNOLOGY ARCHITECT LEVEL 2				
MT1	The proposed resource must have a minimum of 60 months within the last 96 months of demonstrated experience as a Technology Architect working within a data warehouse Information Technology (IT) Development Environment within an organization that has a minimum of 8,000 employees.			
MT2	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months implementing data warehousing in an Extract, Transform and Load (ETL) environment.			
MT3	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System. Example: Loading Mainframe, Sybase, SQL Server or data source equivalent into a Data Warehouse environment.			
MT4	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months scripting within a Unix environment.			
MT5	The proposed resource must have a minimum of 24 months of demonstrated experience within the last 60 months with the IBM DB2 RDBMS (Relational Database Management System) in an IBM Infosphere DataStage environment.			
MT6	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months shredding XML data types into a Data Warehouse environment.			

Commented [MXD5]: Government
Federal/provincial/municipal and/or Private sector?

Commented [BL6]: Sector may be from any one stated.



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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #1 - TECHNOLOGY ARCHITECT LEVEL 2				
RT1	Points will be awarded where the proposed resource has experience within the last 72 months working as an IBM Infosphere DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues. *Complex is defined as a job, script or routine which: 1) Has two or more join stages or transformer stages; and 2) Has data sources with two or more transformation rules	Demonstrated experience will be scored as follows: 12 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT2	Further to Resource #1 - Mandatory Criteria MT3, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 37 to 48 months = 4 points 49 to 60 months = 8 points 61 to 72 months = 12 points 73 to 84 months = 16 points 85+ months = 20 points	Up to 20 points	
RT3	Further to Resource #1 - Mandatory Criteria MT4, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 37 to 48 months = 2 points 49 to 60 months = 4 points 61 to 72 months = 6 points 73 to 84 months = 8 points 85+ months = 10 points	Up to 10 points	
RT4	Further to Resource #1 - Mandatory Criteria MT6, additional demonstrated	Demonstrated experience will be scored as follows.	Up to 30 points	



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	experience above the minimum required will be evaluated.	37 to 48 months = 6 points 49 to 60 months = 12 points 61 to 72 months = 18 points 73 to 84 months = 24 points 85+ months = 30 points		
RT5	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining source, target and staging data repositories.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining (describing or outlining) data transformation processes.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining (describing or outlining) data movement schedules.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining (describing or outlining) volumetric, hardware and software requirements and configurations.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL coding standards and ETL development best practices.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience within	Demonstrated experience will be scored as follows.	Up to 8 points	



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	the last 120 months developing ETL design guidelines.	12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points		
RT11	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months using ETL Source to Target Mapping documentation, and ETL High Level and Detailed ETL Design documentation, and BM Infosphere Datastage job documentation	Demonstrated experience will be scored as follows 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
Total points.		Up to 136 points	Minimum Threshold is 195 points. The proposed Resource must achieve at least the minimum threshold.	
Bidder's total points:				

Commented [BL7]: That's fine, it was what was there originally. previous procurement officer said that because 70% is 95.2 points, 95.2 points must be put to avoid any confusion even though you cannot get 95.2 points. I am fine with either way.

Commented [MXD8]: Cannot get 95.2 points as suggested

Max: 70%



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met"

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #2 - TECHNOLOGY ARCHITECT LEVEL 3				
MT1	The proposed resource must have a minimum of 120 months within the last 180 months of demonstrated experience as a Technology Architect working within a Data Warehouse Information Technology (IT) Development Environment within an organization that has a minimum of 8,000 employees.			
MT2	The proposed resource must have a minimum of 120 months of demonstrated experience within the last 180 months implementing data warehousing in an Extract, Transform and Load (ETL) environment.			
MT3	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 96 months using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System. Example: Loading Mainframe, Sybase, SQL Server or data source equivalent into a Data Warehouse environment.			
MT4	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months scripting within a Unix environment.			
MT5	The proposed resource must have a minimum of 48 months of demonstrated experience within the last 72 months with the IBM DB2 RDBMS (Relational Database Management System) in a IBM Infosphere DataStage environment.			
MT6	The proposed resource must have a minimum of 36 months of demonstrated experience within the last 60 months shredding XML data types into a Data Warehouse environment.			
MT7	The proposed resource must have a minimum of 24 months of demonstrated experience within the last 60 months managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers.			

Commented [MXD9]: Government
Federal/provincial/municipal and/or Private sector?

Commented [MXD10]: Was this around 8 years ago? Same
comment for any other requirements

Commented [MXD11]: What is this?



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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #2 TECHNOLOGY ARCHITECT LEVEL 3				
RT1	Points will be awarded where the proposed resource has demonstrated experience within the 72 months working as an IBM InfoSphere DataStage ETL Architect in a Data Warehousing environment developing complex ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues. *Complex is defined as a job, script or routine which: 1) Has two or more join stages and/or transformer stages; and 2) Has data sources with two or more transformation rules.	Demonstrated experience will be scored as follows: 12 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT2	Further to Resource #2 - Mandatory Criteria MT3, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 61 to 72 months = 2 points 73 to 84 months = 4 points 85+ months = 6 points	Up to 6 points	
RT3	Further to Resource #2 Mandatory Criteria MT4, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 61 to 72 months = 2 points 73 to 84 months = 4 points 85 to 96 months = 6 points 97 to 108 months = 8 points 109+ months = 10 points	Up to 10 points	
RT4	Further to Resource #2 Mandatory Criteria MT6, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 37 to 48 months = 6 points 49 to 60 months = 12 points	Up to 30 points	



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		61 to 72 months = 18 points 61 to 84 months = 24 points 85 to 120 months = 30 points		
RT5	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining source, target and staging data repositories.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining data transformation processes.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining (describing or outlining) data movement schedules.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience as an ETL Architect within the last 120 months defining volumetric, hardware and software requirements and configurations.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL coding standards and ETL development best practices.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	

Commented [MXD12]: Why so much points dedicated for this criteria?



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RT-10	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL design guidelines.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT-11	Points will be awarded where the proposed resource has demonstrated experience within the last 120 months developing ETL Source to Target Mapping documentation, and ETL High Level and Detailed ETL Design documentation, and IBM InfoSphere Datastage job documentation.	Demonstrated experience will be scored as follows: 12 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49+ months = 8 points	Up to 8 points	
RT-12	Further to Resource #2 - Mandatory Criteria MT5, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 25 to 36 months = 2 points 37 to 48 months = 4 points 49 to 60 months = 6 points 61 to 72 months = 8 points 73+ months = 10 points	Up to 10 points	
RT-13	The proposed resource has a Certified Business Intelligence Professional (CBIP) Certification.	10 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid	Up to 10 points	
RT-14	Points will be awarded where the proposed resource has experience within the last 10 years working on large-scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas. 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries	Demonstrated experience will be scored as follows. 12 months or less = 1 point 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 72 months = 6 points 73 to 108 months = 8 points 109+ months = 10 points	Up to 10 points	



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Total points:		Minimum Threshold is 106 points. The proposed Resource must achieve at least the minimum threshold		
Bidder's total points:			Up to 152 points	Minimum Threshold is 106 points. The proposed Resource must achieve at least the minimum threshold.



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Mandatory Technical Criteria (MT)				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.				
Mandatory Technical criterion not addressed will be considered as "Not Met"				
	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #3 - IM ARCHITECT LEVEL 3				
MT1	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last 180 months, in demonstrating knowledge of data architecture principles within a Data Warehouse Information Technology (IT) Development Environment serving an organization that has a minimum of 8,000 employees			
MT2	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months for each of the following functions: 1. Developing Business and System Use cases for business goals; 2. Performing interviews and consultations with stakeholders for requirements gathering and analysis; 3. Facilitating stakeholder workshops with a minimum of five (5) participants; 4. Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate.			
MT3	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last 180 months, participating in the development of data models, policies and procedures.			

Commented [MXD13] Government
Federal/provincial/municipal and/or Private sector?



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Point Rated Technical Criteria (RT) - Scores

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Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #3 INFORMATION MANAGEMENT ARCHITECT LEVEL 3				
RT1	Points will be awarded where the proposed resource has demonstrated experience reviewing corporate architecture strategies and directions, and devising data subject areas to support them within the 180 months.	Demonstrated experience will be scored as follows: 12 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT2	Points will be awarded where the proposed resource has demonstrated experience collaborating with Application Architects in contributing to business planning at the enterprise level within the 180 months.	Demonstrated experience will be scored as follows: 36 to 48 months = 4 points 49 to 60 months = 8 points 61 to 72 months = 12 points 73 to 84 months = 16 points 85+ months = 20 points	Up to 20 points	
RT3	Further to Resource #3 Mandatory Criteria MT2, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 61 to 72 months = 1 point 73+ months = 2 points	Up to 2 points	
RT4	Points will be awarded where the proposed resource has demonstrated experience in identifying and addressing data quality and integrity issues to continually increase the value of information available to business users within the last 180 months.	Demonstrated experience will be scored as follows: 37 to 60 months = 2 points 61 to 84 months = 4 points 85 to 108 months = 6 points 109 to 120 months = 8 points 121+ months = 10 points	Up to 10 points	
RT5	Points will be awarded where the proposed resource has demonstrated experience defining (describing or outlining) linkages, providing analysis and documenting data elements	Demonstrated experience will be scored as follows: 12 months or less = 1 point 13 to 24 months = 2 points	Up to 10 points	



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	Utilizing a Data Warehouse metadata toolset consisting of IBM InfoSphere Metadata Workbench and Business Glossary within the last 84 months.	25 to 36 months = 4 points 37 to 48 months = 6 points 49 to 60 months = 8 points 61+ months = 10 points		
RT6	Points will be awarded where the proposed resource has demonstrated experience with Enterprise Data Warehouse design and implementation within the last 120 months.	Demonstrated experience will be scored as follows: 12 months or less = 1 point 13 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49 to 60 months = 8 points 61 months = 10 points	Up to 10 points	
RT7	Points will be awarded where the proposed resource has the proposed resource must have experience within the last 10 years working on large scale DW BI projects within a Data Warehouse Development IT Environment; that demonstrate experience in ALL of the following areas: 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries	Demonstrated experience will be scored as follows: 12 months or less = 1 point 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 72 months = 6 points 73 to 108 months = 8 points 108+ months = 10 points	Up to 6 points	
RT8	The proposed resource has a Certified Business Intelligence Professional (CBIP) Certification.	10 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid	Up to 10 points	
Total points:			Up to 88 points	Minimum Threshold is 61 points. The proposed Resource must achieve at least the minimum threshold
Bidder's total points:				

Commented [MXD14]: Please confirm if this is a mandatory criteria?

Commented [MXD15]: This is not in the tasks/deliverables for resource #3



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met"

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #4 DATABASE ANALYST LEVEL 3				
MT1	The proposed resource must have a minimum of 120 months of demonstrated experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an organization that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas: 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries			
MT2	The proposed resource must have a minimum of 60 months of experience in the last 180 months of demonstrated experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions).			



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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #4 - DATABASE ANALYST LEVEL 3				
RT1	Further to Resource #4 - Mandatory Criteria MT1, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 121 to 132 months = 8 points 133 to 144 months = 16 points 145 to 156 months = 24 points 157 to 168 months = 32 points 169+ months = 40 points	Up to 40 points	
RT2	Further to Resource #4 - Mandatory Criteria MT2, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 61 to 72 months = 4 points 73 to 84 months = 8 points 85 to 96 months = 12 points 97 to 108 months = 16 points 109+ months = 20 points	Up to 20 points	
RT3	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in translating business requirements into specifications documents within the last 180 months.	Demonstrated experience will be scored as follows: 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 84 months = 6 points 85 to 120 months = 8 points 120+ months = 10 points	Up to 10 points	
RT4	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in writing source to target mappings within the last 180 months.	Demonstrated experience will be scored as follows: 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 84 months = 6 points	Up to 10 points	

Commented [MXD16]: What value does this add? This is too much.

Commented [MXD17]: Not in sow/tasks



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		85 to 120 months = 8 points 120+ months = 10 points		
RT5	Points will be awarded where the proposed resource has demonstrated experience with large scale Data Warehouse projects as a Data Analyst addressing Business Intelligence/Data Warehouse (BI/DW) performance-related.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience providing input into the creation and/or maintenance of Dimensional Data Models in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM InfoSphere DataStage in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM DB2 in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Data Architect in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Cognos BI in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT11	Points will be awarded where the proposed resource has demonstrated experience using	Demonstrated experience will be scored as follows.	Up to 6 points	



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	and developing DW applications using IBM Puredata or PostgreSQL in the last 60 months	13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points			Commented [MXD18]: Not in the sow
RT12	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications sourced from complex XML data structures in the last 60 months.	Demonstrated experience will be scored as follows, 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points		Commented [MXD19]: Define complex
RT13	The proposed resource has a Certified Business Intelligence Professional (CBIP) Certification.	20 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid.	Up to 20 points		Commented [MXD20]: Why this one is 20 points and the other above are 10 points? Commented [MXD21]: Then this should be a mandatory criteria
Total points:			Up to 162 points	Minimum Threshold is 113 points. The proposed Resource must achieve at least the minimum threshold	Commented [BL22]: It is more important that this resource has certification than others hence 20 points as opposed to 10 points
Bidder's total points:					



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ANNEX A STATEMENT OF WORK

1. TITLE

Two (2) resources to assist with CBSA initiatives such as eManifest and potentially the Beyond the Border initiatives.

2. BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

eManifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

The Beyond the Border Action Plan sets out 32 initiatives that forward a perimeter approach to protect the security of Canada and the United States, and strengthen economic competitiveness in both countries by addressing threats early; facilitating trade, economic growth and jobs; integrating cross-border law enforcement; and ensuring there is a critical infrastructure and cyber security.

Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3. SCOPE

The Common and Corporate Services Division of the CBSA requires two (2) resources on an as required basis to assist with Commercial initiatives, more particularly with the eManifest initiative. On an as and when requested basis, through the issuance of Task Authorizations (TAs), the Contractor will:

- One IM Architect Level 3, working on large-scale DW/BI projects within an Information Technology (IT) Data Warehouse development environment, analyze existing capabilities and requirements, evaluate existing procedures and methods, identify and document database content, structure and application subsystems, and develop data dictionary; and define and document interfaces of manual to automated operations within application subsystems to external systems and between new and existing systems in support of the eManifest initiative and other priority initiatives.
- One Database Analyst Level 3, working on large-scale DW/BI projects within an Information Technology (IT) Data Warehouse development environment to work on large-scale Data Mining and Dimensional Data Warehousing (modeling design principles of the Kimball Methodology, dimensional models integrated via conformed dimensions) in support of the eManifest initiative and other priority initiatives.

Further details are provided in the Resource Categories, Tasks and Deliverables section below.

Regardless of the Objective and Background sections above, should a requirement for work from another CBSA sector align with the tasks and deliverables of this contract, CBSA may, at its discretion, leverage resources from this contract to support and assist with that requirement.

4. TECHNICAL ENVIRONMENT



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The Contractor shall provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.

The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM/zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) IBM Change Data Capture
- 12) SQL
- 13) XML
- 14) Microsoft Office Suite
- 15) JIRA
- 16) Wiki

5. RESOURCE CATEGORIES, TASKS AND DELIVERABLES

5.1 RESOURCE 1 - IBM ARCHITECT LEVEL 3

Each Task Authorization will specify the tasks to be completed. The Contractor may be required to perform, but not limited to, the following.

5.2.1 TASKS

- 5.2.1.1 Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration;
- 5.2.1.2 Develop and document detailed statements of requirements,
- 5.2.1.3 Develop and support the data architecture strategy for eManifest, based on situational awareness of various business and IT drivers
- 5.2.1.4 Apply a structured business and data architecture approach and methodology for capturing the key views of the eManifest project.
- 5.2.1.5 Define linkage between data elements shared between eManifest and the Data Warehouse using the current Data Warehouse metadata toolset - IBM InfoSphere Metadata Workbench and Business Glossary
- 5.2.1.6 Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all eManifest pillars in traditional BI / Reporting.



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- 5.2.1.7 Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge.
- 5.2.1.8 Liaise with pillar business and IT representatives to assess CBSA program needs.
- 5.2.1.9 Gather and define Business Intelligence solutions requirements
- 5.2.1.10 Analyze and document eManifest Data Warehouse data within the current Data Warehouse metadata toolset IBM InfoSphere Metadata Workbench and Business Glossary
- 5.2.1.11 Perform cost/benefit analysis of implementing new processes and solutions.
- 5.2.1.12 Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies.
- 5.2.1.13 Provide advice in defining new requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.
- 5.2.1.14 Analyze and document end-user request for improvements or alterations.
- 5.2.1.15 Prepare briefing material and presentations for senior management
- 5.2.1.16 Review and provide feedback on existing Architecture.
- 5.2.1.17 Communicate with stakeholders to define requirements.
- 5.2.1.18 Develop and coordinate internal policies and processes
- 5.2.1.19 Provide input into Data Warehouse Design decisions
- 5.2.1.20 Develop Complex SQL queries
- 5.2.1.21 Examine data available in existing data source and collect statistics about that data
- 5.2.1.22 Work within the Service Lifecycle Management Framework.

5.2.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead



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Each Task Authorization will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver, but not limited to, the following:

- 5.2.2.1 Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting Solutions
- 5.2.2.2 Quality Assurance plans to guide testers
- 5.2.2.3 Options Analysis documents (as required)
- 5.2.2.4 Risk Dashboard business requirements document
- 5.2.2.5 Written and verbal summaries of meetings with stakeholders
- 5.2.2.6 Write documentation in support of TASKS above as required
- 5.2.2.7 Please refer to section 5.3.1 Tasks for other deliverables
- 5.2.2.8 Please refer to section 8 Reporting Requirements for progress reports.

5.3 RESOURCE 2 DATABASE ANALYST LEVEL 3

Each Task Authorization will specify the tasks to be completed. The Contractor may be required to perform, but not limited to, the following

5.3.1 TASKS

- 5.3.1.1 Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data).
- 5.3.1.2 Provide support, develop and present DW/BI strategies, roadmaps and project plans.
- 5.3.1.3 Develop Complex SQL queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals and utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users.
- 5.3.1.4 Assist DBAs with BI/DW database performance and design related issues.
- 5.3.1.5 Provide support to develop an Enterprise Data Warehouse Model; including logical model integration of data from multiple subject areas.
- 5.3.1.6 Identify requirements for improvements to existing databases by determining users information requirements and system performance and functional requirements.
- 5.3.1.7 Develop and implement procedures that will ensure the accuracy, completeness and time-iness of data stored in the database
- 5.3.1.8 Mediates and resolves conflicts among users needs for data.
- 5.3.1.9 Advise programmers, analysts, and users about the efficient use of data.
- 5.3.1.10 Provide input into Data Warehouse Design decisions



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5.3.1.11 Examine data available in existing data source and collect statistics about that data

5.3.1.12 Write source to target mappings

5.3.1.13 Work within the Service Lifecycle Management Framework

5.3.2 DELIVERABLES

The Contractor, through its resource provided under the contract shall provide the following deliverables on an as and when requested basis. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables shall be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

Each Task Authorization will specify the deliverables to be produced as well as the associated schedule. The Contractor may be required to deliver, but not limited to, the following.

5.3.2.1 Examine data available in existing data source and collect statistics and information about that data via data profiling.

5.3.2.2 Develop Complex SQL Queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals

5.3.2.3 Reconcile between source data and data within the data warehouse

5.3.2.4 Translate business requirements into specification documents

5.3.2.5 Provide input to Data Warehouse Database Design decisions

5.3.2.6 Write documentation in support of TASKS above as required

5.3.2.7 Please refer to section 5.4.1 Tasks for other deliverables

5.3.2.8 Please refer to section 8. Reporting Requirements for progress reports.

6. CONSTRAINTS

6.1 At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or tunnel (e.g. VPN), be permitted;

6.2 The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract



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Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

Each Task Authorization will identify any additional constraints if applicable. The number of resources may fluctuate up or down depending on operational requirements.

7. LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region (NCR) on-site at CBSA offices. The Resources may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract with no expenses incurred to CBSA.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.

The Contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

Each task authorization will identify the specific work location. While there is no travel expected in the conduct of the work, each Task Authorization will describe any travel, if required.

8. REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

9. LANGUAGE

The resources will be required to perform the work in English. Every individual proposed in its bid will be fluent in English. The individual(s) proposed must be able to communicate orally and in writing in English without any assistance and with minimal errors.

Each Task Authorization will identify the specific language requirements.

10. ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUC	Business Use Case
CBSA	Canada Border Services Agency
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
DA	InfoSphere Data Architect
IM	Information Management



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IT	Information Technology
SQL	Structured Query Language
UDB	Universal Database
VPN	Virtual Private Network
XML	Extensible Markup Language



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ATTACHMENT 4.1 - BID EVALUATION CRITERIA

Mandatory Technical Criteria (MT)				
Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal which addresses the requirement identified in the criterion. Each criterion should be addressed separately.				
Mandatory Technical criterion not addressed will be considered as "Not Met"				
	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #1 - DATA ARCHITECT LEVEL 3				
MT1	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last 180 months, in demonstrating knowledge of data architecture principles within a Data Warehouse Information Technology (IT) Development Environment serving an organization (Government, Federal, provincial/municipal and/or Private sector) that has a minimum of 8,000 employees.			
MT2	The proposed resource must have a minimum of 60 months of demonstrated experience within the last 120 months for each of the following functions: 1. Developing Business and System Use cases for business goals. 2. Performing interviews and consultations with stakeholders for requirements gathering and analysis; 3. Facilitating stakeholder workshops with a minimum of five (5) participants; 4. Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate.			
MT3	The proposed resource must have a minimum of 120 months of demonstrated experience, within the last 180 months, participating in the development of data models, policies and procedures.			



Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #1 - IM ARCHITECT LEVEL 3				
RT1	Points will be awarded where the proposed resource has demonstrated experience reviewing corporate architecture strategies and directions, and devising data subject areas to support them within the 180 months.	Demonstrated experience will be scored as follows: 12 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT2	Points will be awarded where the proposed resource has demonstrated experience collaborating with Application Architects in contributing to business planning at the enterprise level within the 180 months.	Demonstrated experience will be scored as follows: 36 to 48 months = 4 points 49 to 60 months = 8 points 61 to 72 months = 12 points 73 to 84 months = 16 points 85+ months = 20 points	Up to 20 points	
RT3	Further to Resource #3 Mandatory Criteria MT2, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 61 to 72 months = 1 point 73+ months = 2 points	Up to 2 points	
RT4	Points will be awarded where the proposed resource has demonstrated experience in identifying and addressing data quality and integrity issues to continually increase the value of information available to business users within the last 180 months.	Demonstrated experience will be scored as follows: 37 to 60 months = 2 points 61 to 84 months = 4 points 85 to 108 months = 6 points 109 to 120 months = 8 points 121+ months = 10 points	Up to 10 points	
RT5	Points will be awarded where the proposed resource has demonstrated experience defining (describing or outlining) linkages, providing analysis and documenting data elements	Demonstrated experience will be scored as follows: 12 months or less = 1 point 13 to 24 months = 2 points	Up to 10 points	



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	Utilizing a Data Warehouse metadata toolset consisting of IBM InfoSphere Metadata Workbench and Business Glossary within the last 84 months.	25 to 36 months = 4 points 37 to 48 months = 6 points 49 to 60 months = 8 points 61+ months = 10 points		
RT6	Points will be awarded where the proposed resource has demonstrated experience with Enterprise Data Warehouse design and implementation within the last 120 months.	Demonstrated experience will be scored as follows 12 months or less = 1 point 13 to 24 months = 2 points 25 to 36 months = 4 points 37 to 48 months = 6 points 49 to 60 months = 8 points 61 months = 10 points	Up to 10 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience within the last 10 years working on large-scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas: 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries Development of Complex SQL Queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals.	Demonstrated experience will be scored as follows 12 months or less = 1 point 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 72 months = 6 points 73 to 108 months = 8 points 108+ months = 10 points	Up to 10 points	
RT8	The proposed resource has a Certified Business Intelligence Professional (CBIP) Certification.	5 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid.	Up to 5 points	
Total points:			Up to 87 points	Minimum Threshold is 61 points. The proposed Resource must achieve at least the minimum threshold.
Bidder's total points:				



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Mandatory Technical Criteria (MT)

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Mandatory Technical criterion not addressed will be considered as "Not Met"

	Mandatory Technical Criteria	MET	NOT MET	Cross Reference to proposal (Page #)
RESOURCE #2 DATABASE ANALYST LEVEL 3				
MT1	<p>The proposed resource must have a minimum of 120 months of demonstrated experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an organization (Government Federal/provincial/municipal and/or Private sector) that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas:</p> <p>1) Providing input to Data Warehouse Database Design decisions</p> <p>2) Data Profiling</p> <p>3) Development of Complex SQL Queries incorporating inner joins, outer joins, aggregates, unions, subqueries, group by, where clause, having clause, triggers, cursors, views, XML query function and other advanced SQL fundamentals</p>			
MT2	<p>The proposed resource must have a minimum of 60 months of experience in the last 180 months of demonstrated experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions)</p>			



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Point Rated Technical Criteria (RT) - Scores

Attention Bidder: Beside each of the criterion, the Bidder should write the relevant page number(s) from its proposal, which addresses the requirement identified in the criterion. Each criterion should be addressed separately.

Point rated technical criterion not addressed will be given a score of zero.

	Point Rated Technical Criteria	Scoring Methodology	Maximum points	Cross Reference to proposal (Page #)
RESOURCE #2 - DATABASE ANALYST LEVEL 3				
RT1	Further to Resource #4 - Mandatory Criteria MT1, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 121 to 132 months = 4 points 133 to 144 months = 8 points 145 to 156 months = 12 points 157 to 168 months = 16 points 169+ months = 20 points	Up to 20 points	
RT2	Further to Resource #4 - Mandatory Criteria MT2, additional demonstrated experience above the minimum required will be evaluated.	Demonstrated experience will be scored as follows: 61 to 72 months = 4 points 73 to 84 months = 8 points 85 to 96 months = 12 points 97 to 108 months = 16 points 109+ months = 20 points	Up to 20 points	
RT3	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in translating business requirements into specifications documents within the last 180 months.	Demonstrated experience will be scored as follows: 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 84 months = 6 points 85 to 120 months = 8 points 120+ months = 10 points	Up to 10 points	
RT4	Points will be awarded where the proposed resource has demonstrated experience as a Data Analyst in writing source to target mappings within the last 180 months.	Demonstrated experience will be scored as follows: 13 to 36 months = 2 points 37 to 60 months = 4 points 61 to 84 months = 6 points	Up to 10 points	



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		85 to 120 months = 8 points 120+ months = 10 points		
RT5	Points will be awarded where the proposed resource has demonstrated experience with large scale Data Warehouse projects as a Data Analyst addressing Business Intelligence/Data Warehouse (BI/DW) performance-related.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT6	Points will be awarded where the proposed resource has demonstrated experience providing input into the creation and/or maintenance of Dimensional Data Models in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 4 points 25 to 36 months = 8 points 37 to 48 months = 12 points 49 to 60 months = 16 points 61+ months = 20 points	Up to 20 points	
RT7	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM InfoSphere DataStage in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT8	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM DB2 in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT9	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Data Architect in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT10	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications using IBM Cognos BI in the last 60 months.	Demonstrated experience will be scored as follows: 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT11	Points will be awarded where the proposed resource has demonstrated experience using	Demonstrated experience will be scored as follows.	Up to 6 points	



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	and developing DW applications using IBM Puredata (PostgreSQL will also be accepted) in the last 60 months.	13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points		
RT12	Points will be awarded where the proposed resource has demonstrated experience using and developing DW applications sourced from complex* XML data structures in the last 60 months. *Complex as in consisting many different element groups with multiple nodes and levels.	Demonstrated experience will be scored as follows. 13 to 24 months = 2 points 25 to 36 months = 4 points 37+ months = 6 points	Up to 6 points	
RT13	The proposed resource has a Certified Business Intelligence Professional (CBIP) Certification.	5 points will be awarded if the Bidder provides a readable copy of the certificate in English or French with its bid	Up to 5 points	
Total points:			Up to 127 points	Minimum Threshold is 89 points. The proposed Resource must achieve at least the minimum threshold.
Bidder's total points:				

Commented [MXD1]: Not in the sow

Commented [BL2]: PostgreSQL is not part of SOW as it is not required however if no IBM Puredata experience, PostgreSQL is acceptable as equivalence



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ATTACHMENT 4.1 – EVALUATION CRITERIA

Multiple bids from the same bidder are not permitted in response to this bid solicitation. Each bidder must submit one bid for all the required resources. If any bidder submits more than one bid, Canada will choose in its discretion which bid to consider

Mandatory Criteria

The mandatory criteria will be evaluated on a “Met/Not Met” (i.e. compliant/non-compliant) basis. Proposals must demonstrate compliance with all of the following Mandatory criteria and must provide the necessary documentation to support a determination of compliance. Proposals that fail to meet any of the mandatory criteria will be deemed non-compliant and will be given no further consideration.

Point Rated Criteria

Proposals will be evaluated according to how clearly they demonstrate the proposed resource exceeds the minimum requirements stated in the Mandatory Criteria.

Example Project Descriptions

For each of the mandatory and point rated criteria listed below, the Bidder must demonstrate by using project descriptions as executed by the proposed Business Architect. The project description is to include the following:

- a. Project Title
- b. Description of project
- c. List of tasks performed by the resource
- d. Start and end date of project (if end date applies) (dates must include month and year)
- e. Start and end date when the resource actually worked in this capacity on this project (dates must include month and year)

Note: Merely stating the proposed resource has the required experience without providing supporting explanation is not sufficient. Doing so will result in the proposal being deemed non-compliant.

Example: If the mandatory and point rated criteria demands experience in gathering, analyzing and validating findings, it is not sufficient just to state the resource has experience gathering, analyzing and validating findings. The experience must be demonstrated and a reference made to the specific location in the resume where corroborating information can be located in the manner indicated above.

The Contracting Authority reserves the right to request reference(s)* from any of the listed projects to verify and validate the information stated in the proposal. If the reference is unable to verify or validate the information stated in the proposal within seven (7) business days, the bid's technical score may be revised or the bid may be deemed non-compliant.

The proposal documentation must include detailed Curriculum Vitae (Résumé) of the proposed candidate as part of the technical bid. Indicate the location in your proposal where the requested information can be found for both the mandatory and point rated requirements.

All columns in both the Mandatory and Point Rated Criteria must be filled in by the bidder (except for those designated to be filled in by the CBSA Project Technical Authority).

***Reference**

A reference to verify work performed must be a reference provided by a “Client” group or for work conducted in the capacity of the resource category as an employee.

In other words, it cannot be from a colleague or a subordinate, etc.



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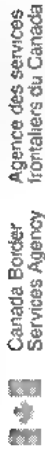


Table A: Mandatory Criteria

Proposals must meet each of the Mandatory Criteria listed in M1 to M6 inclusive. Proposals not meeting any of the listed Mandatory Criteria will be evaluated as non-compliant and will receive no further consideration. Proposals that meet the Mandatory Criteria will be further evaluated under the Point Rated Criteria.

#	Mandatory Requirement	Bidder Self Score / Not Met	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
			Met/Not Met	Project Authority Comments
M1	The proposed resource must have a minimum of ten (10) years' experience as a Business architect developing functional business architecture M1 1 assessing business needs M1 2 translating requirements into system functional specifications M1 3 supporting business transformation by contributing to the development of business transformation plans for the core business functions and related IM/IT initiatives	M1 1	M1 1	
		M1 2	M1 2	
		M1 3	M1 3	
M2	The proposed resource must have a minimum of five (5) years of experience performing each of the following functions M2 1 Developing Use cases M2 2 Facilitating stakeholder (internal & external) workshops, consultations M2 3 Performing One-on-one interviews and teleconferences M2 4 Facilitating teleconferences M2 5 Developing and coordinating policies and processes Bidders do not have to demonstrate the minimum experience of five years for each criterion through individual example projects Experience for each criterion may be demonstrated through one, or multiple, example	M2 1	M2 1	
		M2 2	M2 2	
		M2 3	M2 3	
		M2 4	M2 4	
		M2 5	M2 5	

#	Mandatory Requirement	Bidder Description (include location in bid)	Bidder Self Score. Met / Not Met	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
				Met/Not Met	Project Authority Comments
	projects that collectively meet the minimum of five years' experience Two, or more, example projects that run concurrently in the same calendar period will not be added to attain the minimum five years of experience for each criterion. Only the example project having the longest duration will be evaluated				
M3	The proposed resource must have a minimum of two (2) years of experience working as a Business Analyst with in a Data Warehouse environment				

Table B: Point Rated Criteria

Proposals meeting all of the Mandatory Criteria will be evaluated according to the Technical Point Rated Criteria listed in R1 to R3 inclusive. The maximum score for the Point Rated Criteria is 75 points. There is no minimum pass mark required for any individual Point Rated Criterion, however proposals must score minimum of 53 points or 70% of the maximum 75 points in order to proceed to the Financial Evaluation. Proposals not scoring at least the minimum 53 points will receive no further evaluation.

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
R1	Points will be awarded where the proposed resource has experience related to each of the criteria in M1 over and above the minimum requirement of 10 years R1 1 assessing business needs, R1 2 translating requirements into system functional specifications, R1 3 supporting business transformation by contributing to the development of business transformation plans for the core business functions and related IM/IT initiatives	30	R1 1 assessing business needs 11 years = 2 points 11 + to 12 years = 4 points 12 + to 13 years = 6 points 13 + to 14 years = 8 points More than 14 years = 10 points	R1 1	- Provide description as requested in the Evaluation Disclaimer printed above -Indicate where in the resume corroborating information can be located	R 1	
				R1 2 translating requirements into system functional specifications 11 years = 2 points 11 + to 12 years = 4 points 12 + to 13 years = 6 points 13 + to 14 years = 8 points More than 14 years = 10 points		R. 2	
				R1 3 supporting business transformation by contributing to the development of business transformation plans for the core business functions and related IM/IT initiatives 11 years = 2 points 11 + to 12 years = 4 points 12 + to 13 years = 6 points		R. 3	

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
R2	Points will be awarded where the proposed resource has experience collaborating with Application Architects in contributing to business planning at the enterprise level.	10	13+ to 14 years = 8 points More than 14 years = 10 points 3+ to 5 years = 2 points 5+ to 7 years = 4 points 7+ to 9 years = 6 points 9+ to 10 years = 8 points 10+ years = 10 points				
R3	Points will be awarded where the proposed resource has experience over and above the required 5 years in M2 R3 1 Developing Use cases, R3 2 Facilitating stakeholder (internal & external) workshops, R3 3 Performing One-on-one interviews and consultations R3 4 Facilitating teleconferences R3 5 Developing and coordinating policies and processes	10	Proposals meeting the minimum required 5 years for M4 w.l be allocated a score of 5 points 1 point per year, to a maximum of 2 years, in addition to the minimum required 5 years for M4 w.l be allocated to each of R3 1, R3 2, R3 3, R3 4 and R3 5 for a maximum score of 10 points for R3				
R4	Points will be awarded where the proposed resource has experience over and above the required two years in M3	10	3+ to 5 years = 2 points 5+ to 7 years = 4 points 7+ to 9 years = 6 points 9+ to 12 years = 8 points 12+ years = 10 points				
R5	Points will be awarded where the proposed resource has experience defining linkages, providing analysis and documenting data elements utilizing a Data Warehouse metadata toolset consisting of IBM InfoSphere	10	6+ to 8 months = 4 points 8+ to 10 months = 6 points 10+ to 12 months = 8 points 12+ months = 10 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
R6	<p>Metadata Workbench and Business Glossary</p> <p>The Bidder should demonstrate that the Bidder's company has incorporated environmental practices into their on-going IT related business activities</p> <p>Examples could include</p> <ul style="list-style-type: none"> Electronic Distribution of documents / del verables. Conduct meetings via telephone, teleconference, and/or video conferencing in order to minimize travel requirements, Use of properties with environmental ratings <p>BIDDERS SHOULD NOT SUBMIT A CORPORATE ENVIRONMENTAL PLAN. A one or two paragraph summary will suffice</p>	5	One point will be awarded for each environmental practice incorporated into on-going IT related business activities to a maximum of 5 points				
	Total # of points		75				
	Pass mark = 70% or # points		53				



ATTACHMENT 4.2 - FINANCIAL EVALUATION OF PROPOSAL (PRICING TABLE)

The Bidder must complete this pricing schedule

Table A: Contract Period (12 months)

Category of Personnel (A)	Level of Expertise (B)	Estimated Level of Effort (days per resource) (C)	Per Diem Rate (D)	Total Cost (E)
P.5 Project Executive	3	240	\$TBD	C * D

Table B: Option Period 1 (12 months)

Category of Personnel (A)	Level of Expertise (B)	Estimated Level of Effort (days per resource) (C)	Per Diem Rate (D)	Total Cost (E)
P.5 Project Executive	3	240	\$TBD	= C * D

Table C: Option Period 2 (12 months)

Category of Personnel (A)	Level of Expertise (B)	Estimated Level of Effort (days per resource) (C)	Per Diem Rate (D)	Total Cost (E)
P.5 Project Executive	3	240	\$TBD	C * D

The total bid price shall be calculated as the sum of the Total Cost of all tables.

B.2 Business Architect Level 3

Experience Levels

- Level 1 < 5 years of experience
- Level 2 5- < 10 years of experience
- Level 3 10+ years of experience or 5+ years of experience with a recognized professional certification

Responsibilities could include but are not limited to:

- Develop policies and rules that allow an organization to carry out its mandate and functional responsibilities, and that govern the organization's actual and planned capabilities in terms of computers, data, information, human resources, communication facilities, software and management responsibilities.
- Develop the specifications for where, how and why the various organizational components fit together as they do, and how they support the organization's mandate

Specialties could include but are not limited to:

- BPM n
- Oracle CASE
- Rational Rose
- RUP

ANNEX A: STATEMENT OF WORK

1.) TITLE

One Business Architect Level 3 to assist with Commercial Initiatives

2.0 BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

E-manifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

3.0 SCOPE

The Common and Corporate Services Division of the CBSA requires one Level 3 Business Architect to analyze the line of business the processes and procedures in support of the eManifest initiative.

4.0 TECHNICAL ENVIRONMENT

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM Puredata for Analytics
- 5) Unix/Linux
- 6) ERWin Data Modeler
- 7) IBM Data Architect
- 8) IBM Cognos

5.0 TASKS

The Contractor, through its resource provided under the contract, must perform the following tasks:

- a) Develop and support the business architecture strategy for eManifest, based on situational awareness of various business drivers
- b) Apply a structured business architecture approach and methodology for capturing the key views of the eManifest project
- c) Define linkage between data elements shared between eManifest and the Data Warehouse using the current Data Warehouse metadata tool set – IBM InfoSphere Metadata Workbench and Business Glossary
- d) Provide expert advice in defining new requirements and opportunities for apply efficient and effective solutions
- e) Provide training and guidance to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge
- f) Liaise with pillar business and IT representatives to assess program needs
- g) Define business solutions across all eManifest pillars in traditional BI/Reporting
- h) Gather and define Business Intelligence solutions requirements
- i) Analyze and document eManifest Data Warehouse data within the current Data Warehouse metadata tool set – IBM InfoSphere Metadata Workbench and Business Glossary
- j) Analyze and document end-user request for improvements or alterations
- k) Prepare briefing material and presentations for senior management
- l) Review and provide feedback on existing Architecture
- m) Communicate with stakeholders to define requirements.
- n) Develop and coordinating policies and processes

6.0 DELIVERABLES

The Contractor through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead within the final project development and rollout time with an end date of December 2017.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- a) Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting solutions
- b) Quality Assurance plans to guide testers
- c) Options Analysis documents (as required)
- d) Risk Dashboard business requirements document
- e) Written and verbal summaries of meetings with stakeholders
- f) Status reports

The resources will be required to produce the above deliverables in various formats using the following tools as specified by the Project Authority:

- Microsoft Word
- Microsoft Excel
- Microsoft Visio
- Microsoft Project
- Microsoft PowerPoint

7.0 LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region on-site at CBSA offices. The Business Architect may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.

The contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario

8.0 CONSTRAINTS

At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or link (e.g. VPN) be permitted.

The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

9. REPORTING REQUIREMENTS

Timesheets are to be provided weekly or monthly depicting hours worked on a daily basis.

10. LANGUAGE

The resource will be required to perform the work in English.



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frontaliers du Canada

ATTACHMENT 4.1 – EVALUATION CRITERIA

Multiple bids from the same bidder are not permitted in response to this bid solicitation. Each bidder must submit one bid for all the required resources. If any bidder submits more than one bid, Canada will choose in its discretion which bid to consider

Mandatory Criteria

The mandatory criteria will be evaluated on a “Met/Not Met” (i.e. compliant/non-compliant) basis. Proposals must demonstrate compliance with all of the following Mandatory criteria and must provide the necessary documentation to support a determination of compliance. Proposals that fail to meet any of the mandatory criteria will be deemed non-compliant and will be given no further consideration.

Point Rated Criteria

Proposals will be evaluated according to how clearly they demonstrate the proposed resource exceeds the minimum requirements stated in the Mandatory Criteria.

Example Project Descriptions

For each of the mandatory and point rated criteria listed below, the Bidder must demonstrate by using project descriptions as executed by the proposed Business Architect. The project description is to include the following:

- a. Project Title
- b. Description of project
- c. List of tasks performed by the resource
- d. Start and end date of project (if end date applies) (dates must include month and year)
- e. Start and end date when the resource actually worked in this capacity on this project (dates must include month and year)

Note: Merely stating the proposed resource has the required experience without providing supporting explanation is not sufficient. Doing so will result in the proposal being deemed non-compliant.

Example: If the mandatory and point rated criteria demands experience in gathering, analyzing and validating findings, it is not sufficient just to state the resource has experience gathering, analyzing and validating findings. The experience must be demonstrated and a reference made to the specific location in the resume where corroborating information can be located in the manner indicated above.

The Contracting Authority reserves the right to request reference(s)* from any of the listed projects to verify and validate the information stated in the proposal. If the reference is unable to verify or validate the information stated in the proposal within seven (7) business days, the bid’s technical score may be revised or the bid may be deemed non-compliant.

The proposal documentation must include detailed Curriculum Vitae (Résumé) of the proposed candidate as part of the technical bid. Indicate the location in your proposal where the requested information can be found for both the mandatory and point rated requirements.

All columns in both the Mandatory and Point Rated Criteria must be filled in by the bidder (except for those designated to be filled in by the CBSA Project Technical Authority).

***Reference**

A reference to verify work performed must be a reference provided by a “Client” group or for work conducted in the capacity of the resource category as an employee.

In other words, it cannot be from a colleague or a subordinate, etc.



Canada Border
Services Agency

Agence des services
frontaliers du Canada

RESOURCE 1 – TECHNOLOGY ARCHITECT LEVEL 2

Table A: Mandatory Criteria

Proposals must meet each of the Mandatory Criteria listed in M1 to M5 inclusive. Proposals not meeting any of the listed Mandatory Criteria will be evaluated as non-compliant and will receive no further consideration. Proposals that meet the Mandatory Criteria will be further evaluated under the Point Rated Criteria.

#	Mandatory Requirement	Bidder Description (Include location in bbl)	Bidder Self Score Met / Not Met	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
				Met/Not Met	Project Authority Comments
M1	The proposed resource must have a minimum of five (5) years out of the last 8 years of experience as a Technology Architect working within a data warehouse Information Technology (IT) Development Environment within an organization that has a minimum of 8,000 employees				
M2	The proposed resource must have a minimum of five (5) years of experience within the last ten (10) years implementing data warehousing in an Extract, Transform and Load (ETL) environment				
M3	The proposed resource must have a minimum of three (3) years of experience within the last five (5) years using IBM InfoSphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System example: Loading Mainframe Sybase, SQL Server (or equivalent) source into a Data Warehouse environment				

#	Mandatory Requirement	Bidder Description (include location in bid) Resource Name _____	Bidder Self Score. Met / Not Met	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
				Met/Not Met	Project Authority Comments
M4	The proposed resource must have a minimum of three (3) years working experience within the last five (5) years scripting within a Unix environment				
M5	The proposed resource must have a minimum of two (2) years working experience within the last five (5) years with the IBM DB2 RDBMS (Relational Database Management System) in an IBM InfoSphere DataStage environment				
M6	The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse environment				



Table B: Point Rated Criteria

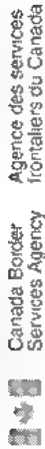
Proposals meeting all of the Mandatory Criteria will be evaluated according to the Technical Point Rated Criteria listed in R1 to R11 inclusive. The maximum score for the Point Rated Criteria is 136 points. There is no minimum pass mark required for any individual Point Rated Criterion; however, proposals must score minimum of 95.2 points or 70% of the maximum 136 points in order to proceed to the Financial Evaluation. Proposals not scoring at least the minimum 95.2 points will receive no further evaluation.

#	Point Rated Criteria	Max Score	Point Grader	Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
R1	Points will be awarded where the proposed resource has experience within the last six (6) years working as an IBM InfoSphere DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues *Complex is defined as a job script or routine which 1) Has two or more join stages or transformer stages <u>and</u> 2) Has data sources with two or more transformation rules	/20	1+ to 2 years = 4 points 2+ to 3 years = 8 points 3+ to 4 years = 12 points 4+ to 5 years = 16 points 5+ years = 20 points		- Provide description as requested in the Evaluation Disclaimer printed above -Indicate where in the resume corroborating information can be located		
R2	Points will be awarded where the proposed resource has experience related to M3 over and above the minimum requirement of three (3) years out of the last eight (8) years M3 The proposed resource must have a minimum of three (3) years	/20	3+ to 4 years = 4 points 4+ to 5 years = 8 points 5+ to 6 years = 12 points 6+ to 7 years = 16 points 7+ to 8 years = 20 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
	<p>of experience within the last five (5) years using IBM DataStage (8 0) or higher as the primary tool to acquire data from a Database Management System</p> <p>example: Loading database data source such as Mainframe, Sybase SQL Server, DB2, Oracle (or other equivalent data source) source into a Data Warehouse environment</p>						
R3	<p>Points will be awarded where the proposed resource has experience related to M4 over and above the minimum requirement of three (3) years out of the last ten (10) years</p> <p>M4 The proposed resource must have a minimum of three (3) years of experience within the last five (5) years scripting within a Unix environment</p>	/10	<p>3+ to 4 years = 2 points 4+ to 5 years = 4 points 5+ to 6 years = 6 points 6+ to 7 years = 8 points 7+ to 10 years = 10 points</p>				
R4	<p>Points will be awarded where the proposed resource has experience related to M6 over and above the minimum requirement of three (3) years out of the last ten (10) years</p>	/30	<p>3+ to 4 years = 6 points 4+ to 5 years = 12 points 5+ to 6 years = 18 points 6+ to 7 years = 24 points 7+ to 10 years = 30 points</p>				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments	
						Score	Comments
	M6 The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse environment		points				
R5	Points will be awarded where the proposed resource has experience as an ETL Architect with n the last ten (10) years defining source, target and staging data repositories	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R6	Points will be awarded where the proposed resource has experience as an ETL Architect with n the last ten (10) years defining data transformation processes	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R7	Points will be awarded where the proposed resource has experience as an ETL Architect with n the last ten (10) years defining data movement schedules	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R8	Points will be awarded where the proposed resource has experience as an ETL Architect with n the last ten (10) years defining volumetric, hardware and software requirements and configurations	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R9	Points will be awarded where the proposed resource has experience within the last ten (10) years developing ETL coding standards and ETL development best practices	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
R10	Points will be awarded where the proposed resource has experience within the last ten (10) years developing ETL design guidelines	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R11	Points will be awarded where the proposed resource has experience within the last ten (10) years using ETL-Source to Target Mapping documentation and ETL High Level and Detailed ETL Design documentation and IBM Infosphere Datastage job documentation	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
	Total # of points		136				
	Pass mark = 70% or # points		95.2				



RESOURCE 2 – TECHNOLOGY ARCHITECT LEVEL 3

Table A: Mandatory Criteria

Proposals must meet each of the Mandatory Criteria listed in M1 to M6 inclusive. Proposals not meeting any of the listed Mandatory Criteria will be evaluated as non-compliant and will receive no further consideration. Proposals that meet the Mandatory Criteria will be further evaluated under the Point Rated Criteria.

#	Mandatory Requirement	Bidder Description (Include location in bid)	Bidder Self Score Met / Not Met	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
				Met/Not Met	Project Authority Comments
M1	The proposed resource must have a minimum of ten (10) years within the last 15 years of experience as a Technology Architect working within a Data Warehouse Information Technology (IT) Development Environment within an organization that has a minimum of 8 000 employees	Resource Name . _____			
M2	The proposed resource must have a minimum of ten (10) years of experience within the last fifteen (15) years implementing data warehousing in an Extract Transform and Load (ETL) environment				
M3	The proposed resource must have a minimum of eight (8) years of experience within the last eight (8) years using IBM Infosphere DataStage (8.0) or higher as the primary tool to acquire data from a Database Management System example: Loading Mainframe Sybase, SQL Server (or equivalent) source into a Data Warehouse environment				

#	Mandatory Requirement	Bidder Description (include location in bid) Resource Name : _____	Bidder Self Score, Met / Not Met	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
				Met/Not Met	Project Authority Comments
M4	The proposed resource must have a minimum of five (5) years working experience within the last ten (10) years scripting within a Unix environment				
M5	The proposed resource must have a minimum of four (4) years working experience within the last six (6) years with the IBM DB2 RDBMS (Relational Database Management System) in a IBM InfoSphere DataStage environment				
M6	The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse environment				
M7	The proposed resource must have a minimum of two (2) years of experience within the last five (5) years managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers				

Table B: Point Rated Criteria

Proposals meeting all of the Mandatory Criteria will be evaluated according to the Technical Point Rated Criteria listed in R1 to R14 inclusive. The maximum score for the Point Rated Criteria is 154 points. There is no minimum pass mark required for any individual Point Rated Criterion, however proposals must score minimum of 107.8 points or 70% of the maximum 154 points in order to proceed to the Financial Evaluation. Proposals not scoring at least the minimum 107.8 points will receive no further evaluation.

#	Point Rated Criteria	Max Score	Point Grader	Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
R1	Points will be awarded where each proposed resource has experience within the last 5 years working as an IBM Infosphere DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues *Complex is defined as a job, script or routine which 1) Has two or more join stages and/or transformer stages, and 2) Has data sources with two or more transformation rules.	20	1+ to 2 years = 4 points 2+ to 3 years = 8 points 3+ to 4 years = 12 points 4+ to 5 years = 16 points 5+ years = 20 points		- Provide description as requested in the Evaluation Disclaimer printed above -Indicate where in the resume corroborating information can be located		
R2	Points will be awarded where the proposed resource has experience related to M3 over and above the minimum requirement of five (5) years out of the last 8 years M3: The proposed resource must have a minimum of five(5) years of experience within the last eight (8)	16	5+ to 6 years = 2 points 6+ to 7 years = 4 points 7+ to 8 years = 6 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
	years using IBM DataStage (8 0) or higher as the primary tool to acquire data from a Database Management System example: Loading database data source such as Mainframe, Sybase, SQL Server, DB2 Oracle (or other equivalent data source) source into a Data Warehouse environment						
R3	Points will be awarded where the proposed resource has experience related to M4 over and above the minimum requirement of five (5) years out of the last ten (10) years The proposed resource must have a minimum of five (5) years working experience within the last ten (10) years scripting within a Unix environment	10	5+ to 6 years = 2 points 6+ to 7 years = 4 points 7+ to 8 years = 6 points 8+ to 9 years = 8 points 9+ years = 10 points				
R4	Points will be awarded where the proposed resource has experience related to M6 over and above the minimum requirement of three (3) years out of the last ten (10) years M6 The proposed resource must have a minimum of three (3) years working experience within the last five (5) years shredding XML data types into a Data Warehouse	30	3+ to 4 years = 6 points 4+ to 5 years = 12 points 5+ to 6 years = 18 points 6+ to 7 years = 24 points 7+ to 10 years = 30 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
	environment						
R5	Points will be awarded where the proposed resource has experience as an ETL Architect within the last ten (10) years defining source, target and staging data repositories	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R6	Points will be awarded where the proposed resource has experience as an ETL Architect within the last ten (10) years defining data transformation processes	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R7	Points will be awarded where the proposed resource has experience as an ETL Architect within the last ten (10) years defining data movement schedules	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R8	Points will be awarded where the proposed resource has experience as an ETL Architect within the last ten (10) years defining volumetric, hardware and software requirements and configurations	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R9	Points will be awarded where the proposed resource has experience within the last ten (10) years developing ETL coding standards and ETL development best practices	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R10	Points will be awarded where the proposed resource has experience within the last ten (10) years developing ETL design guidelines	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ years = 8 points				
R11	Points will be awarded where the proposed resource has experience	/8	1+ to 2 years = 2 points 2+ to 3 years = 4 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments	
						Score	Comments
	within the last ten (10) years developing ETL Source to Target Mapping documentation, and ETL High Level and Deta led ETL Design documentation and IBM Infosphere Datastage job documentation		3+ to 4 years = 6 points 4+ years = 8 points				
R12	Points will be awarded where the proposed resource has experience over and above the required two years in mandatory criterion M5 <i>The resource must have two years of experience within the last five years managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers</i>	/10	2+ to 3 years = 2 points 3+ to 4 years = 4 points 4+ to 5 years = 6 points 5+ to 6 years = 8 points 6+ years = 10 points				
R13	The proposed resource must have experience within the last 10 years working on large-scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries	/10	1 year or less = 1 point 1+ to 3 years = 2 points 3+ to 5 years = 4 points 5+ to 7 years = 6 points 7+ to 9 years = 8 points 9+ to 10 years = 10 points				
R14	Points will be awarded upon receipt of copy of CBIP certification	/10	Copy of CBIP certification = 10 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
	Total # of points		154				
	Pass mark = 70% or # points		107.8				

RESOURCE 3 – INFORMATION MANAGEMENT ARCHITECT LEVEL 3

Table A: Mandatory Criteria

Proposals must meet each of the Mandatory Criteria listed in M1 to M3 inclusive. Proposals not meeting any of the listed Mandatory Criteria will be evaluated as non-compliant and will receive no further consideration. Proposals that meet the Mandatory Criteria will be further evaluated under the Point Rated Criteria.

#	Mandatory Requirement	Bidder Description (include location in bid)	Bidder Self Score: Met / Not Met	CBSA Project Authority Scoring and comments	
				To be completed by the CBSA Evaluator only	Project Authority Comments
			Met / Not Met	Met/Not Met	
M1	The Contractor must demonstrate that the proposed resource has a minimum of ten (10) years' experience within the last fifteen years, in demonstrating knowledge of data architecture principles within a Data Warehouse Information Technology (IT) Development Environment serving an organization that has a minimum of 8 000 employees				
M2	The proposed resource must have a minimum of five (5) years of experience within the last 10 years performing each of the following functions: M2.1 Developing Business and System Use cases for business goals M2.2 Performing interviews and consultations with stakeholders for requirements gathering and analysis M2.3 Facilitating stakeholder workshops with a minimum of five (5) participants.		M2.1	M2.1	
			M2.2	M2.2	
			M2.3	M2.3	

#	Mandatory Requirement	Bidder Description (include location in bid)	Bidder Self Score:	CBSA Project Authority Scoring and comments	
				To be completed by the CBSA Evaluator only	
			Met / Not Met	Met/Not Met	Project Authority Comments
	M2.4 Developing and coordinating policies and processes in step with a corporate, business or organization strategy to achieve its mandate Bidders must demonstrate the minimum experience of five years for each criterion through individual example projects				
			M2.4	M2.4	
			M2.5	M2.5	
M3	The Contractor must demonstrate that the proposed resource has a minimum of ten (10) years' experience within the last fifteen (15) years, participating in the development of data models, policies and procedures				

Table B: Point Rated Criteria

Proposals meeting all of the Mandatory Criteria will be evaluated according to the Technical Point Rated Criteria listed in R1 to R8 inclusive. The maximum score for the Point Rated Criteria is 78 points. There is no minimum pass mark required for any individual Point Rated Criterion, however, proposals must score minimum of 54.6 points or 70% of the maximum 78 points in order to proceed to the Financial Evaluation. Proposals not scoring at least the minimum 54.6 points will receive no further evaluation.

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments	
						To be completed by the CBSA Evaluator only	Comments
R1	The Contractor should demonstrate that the proposed resource has experience reviewing corporate architecture strategies and directions and devising data subject areas to support them within the last 15 years	/10	3+ to 5 years = 2 points 5+ to 7 years = 4 points 7+ to 9 years = 6 points 9+ to 10 years = 8 points 10+ years = 10 points		- Provide description as requested in the Evaluation Disclaimer printed above -Indicate where in the resume corroborating information can be located		
R2	Points will be awarded where the proposed resource has experience collaborating with Application Architects in contributing to business planning at the enterprise level within the last 15 years	/10	3+ to 5 years = 2 points 5+ to 7 years = 4 points 7+ to 9 years = 6 points 9+ to 10 years = 8 points 10+ years = 10 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments	
						To be completed by the CBSA Evaluator only	Comments
R3	Points will be awarded where the proposed resource has experience over and above the required 5 years in M2 within the last 15 years. R3.1 Developing Business and System Use cases, R3.2 Performing One-on-one interviews and consultations R3.3 Facilitating stakeholder (internal & external) workshops R3.4 Developing and coordinating policies and processes	/8	R3.1 Developing System and Business Use cases, 5+ to 6 years = 1 point 6+ years = 2 points	R3.1			
			R3.2 Performing One-on-one interviews and consultations 5+ to 6 years = 1 point 6+ years = 2 points	R3.2			
			R3.3 Facilitating stakeholder (internal & external) workshops 5+ to 6 years = 1 point 6+ years = 2 points	R3.3			
			R3.4 Developing and coordinating policies and processes 5+ to 6 years = 1 point 6+ years = 2 points	R3.4			
			R3.5 Developing and coordinating policies and processes 5+ to 6 years = 1 point 6+ years = 2 points	R3.5			

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments	
						To be completed by the CBSA Evaluator only	Comments
R4	The Contractor should demonstrate that the proposed resource has experience in identifying and addressing data quality and integrity issues to continually increase the value of information available to business users within the last fifteen years	/10	3+ to 5 years = 2 points 5+ to 7 years = 4 points 7+ to 9 years = 6 points 9+ to 10 years = 8 points 10+ years = 10 points				
R5	Points will be awarded where the proposed resource has experience defining linkages, providing data analysis and documenting data elements utilizing a Data Warehouse metadata toolset consisting of IBM InfoSphere Metadata Workbench and Business Glossary within the last 7 years	/10	1 year or less = 1 points 1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ to 5 years = 8 points 5+ years = 10 points				
R6	The Contractor should demonstrate that the proposed resource has experience with Enterprise Data Warehouse design and implementation within the last 10 years	/10	1 year or less = 1 points 1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ to 5 years = 8 points 5+ years = 10 points				

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments	
						To be completed by the CBSA Evaluator only	Comments
R7	The proposed resource must have experience with n the last 10 years working on large-scale DW/BI projects within a Data Warehouse Development IT Environment that demonstrate experience in ALL of the following areas 4) Providing input to Data Warehouse Database Design decisions 5) Data Profiling 6) Development of Complex SQL Queries	/10	1 year or less = 1 point 1+ to 3 years = 2 points 3+ to 5 years = 4 points 5+ to 7 years = 6 points 7+ to 9 years = 8 points 9+ to 10 years = 10 points				
R8	Points will be awarded upon receipt of copy of CBIP certification	/10	Copy of CBIP certification = 10 points				
	Total # of points		7/10		Check points and 70 %		
	Pass mark = 70% or # points		54.6				



RESOURCE 4 DATABASE ANALYST LEVEL 3

Table A: Mandatory Criteria

Proposals must meet each of the Mandatory Criteria listed in M1 to M6 inclusive. Proposals not meeting any of the listed Mandatory Criteria will be evaluated as non-compliant and will receive no further consideration. Proposals that meet the Mandatory Criteria will be further evaluated under the Point Rated Criteria.

#	Mandatory Requirement	Bidder Description (Include location in bid)	Bidder Self Score, Met / Not Met	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
				Met/Not Met	Project Authority Comments
M1	The proposed resource must have a minimum of 10 years of experience as a Database Analyst working on large-scale DW/BI projects within a Data Warehouse Development IT Environment within an organization that has a minimum of 8,000 employees that demonstrate experience as a Database Analyst in ALL of the following areas 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries	Provide description as requested in the Evaluation Disclaimer printed above - Indicate where in the proposal corroborating information can be located			
M2	The proposed resource must have a minimum of 5 years of experience in the last 15 years as demonstrating experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated v a conformed dimensions)				

Table B: Point Rated Criteria

Proposals meeting all of the Mandatory Criteria will be evaluated according to the Technical Point Rated Criteria listed in R1 to R13 inclusive. The maximum score for the Point Rated Criteria is 152 points. There is no minimum pass mark required for any individual Point Rated Criterion, however proposals must score minimum of 13.4 points or 70% of the maximum 162 points in order to proceed to the Financial Evaluation. Proposals not scoring at least the minimum 13.4 points will receive no further evaluation.

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
R1	<p>The proposed resource should have experience over and above the required 10 years in mandatory criterion M1 within the last 15 years</p> <p>The proposed resource must have a minimum of 10 years of experience as a Database Analyst working on large-scale DW/BI projects within an IT Environment that demonstrate experience as a Database Analyst in ALL of the following areas</p> <ol style="list-style-type: none"> 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries 	40	<p>10+ to 11 years = 8 points 11+ to 12 years = 16 points 12+ to 13 years = 24 points 13+ to 14 years = 32 points 14+ years = 40 points</p>		<p>- Provide description as requested in the Evaluation Disclaimer printed above - Indicate where in the resume corroborating information can be located</p> <p>Copy this criteria to IM Architect and eil level 3 (and remove minimum 10 years)</p>		

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only
						Score Comments
R2	<p>The proposed resource should have experience over and above the required five (5) years' experience in mandatory criterion M2</p> <p><i>The proposed resource must have a minimum of 5 years of experience in the last 15 years as demonstrating experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball Methodology (dimensional models integrated via conformed dimensions)</i></p>	20	<p>5+ to 6 years = 4 points 6+ to 7 years = 8 points 7+ to 8 years = 12 points 8+ to 9 years = 16 points 9+ years = 20 points</p>			
R3	Points will be awarded for project experience as a Data Analyst in translating business requirements into specifications documents within the last 15 years.	10	<p>1 year to 3 years = 2 points 3+ to 5 years = 4 points 5+ to 7 years = 6 points 7+ to 10 years = 8 points 10+ years = 10 points</p>			
R4	Points will be awarded for project experience as a Data Analyst in writing source to target mappings within the last 15 years	10	<p>1 year to 3 years = 2 points 3+ to 5 years = 4 points 5+ to 7 years = 6 points 7+ to 10 years = 8 points 10+ years = 10 points</p>			
R5	Points will be awarded for experience with large-scale Data Warehouse projects as a Data Analyst addressing Business Intelligence/Data Warehouse (BI/DW) performance-related issues in the last 5 years	6	<p>1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points</p>			
R6	Points will be awarded for project experience providing input into the creation and/or maintenance of	20	<p>1 to 2 years = 4 points 2+ to 3 years = 8 points 3+ to 4 years = 12 points</p>			

#	Point Rated Criteria	Max Score	Point Grader	Bidder Self Score	Bidder Response and Self-score (explain how points are obtained and reference location in bid)	CBSA Project Authority Scoring and comments To be completed by the CBSA Evaluator only	
						Score	Comments
	Dimensional Data Models in the last 5 years		4+ to 5 years = 16 points 5+ years = 20 points				
R7	Points will be awarded for project experience using and developing DW applications using IBM InfoSphere DataStage in the last 5 years	6	1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points				
R8	Points will be awarded for project experience using and developing DW applications using IBM DB2 in the last 5 years	6	1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points				
R9	Points will be awarded for project experience using and developing DW applications using IBM Data Architect in the last 5 years	6	1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points				
R10	Points will be awarded for project experience using and developing DW applications using IBM Cognos BI in the last 5 years	6	1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points				
R11	Points will be awarded for project experience using and developing DW applications using IBM Puredata or PostgreSQL in the last 5 years	6	1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points				
R12	Points will be awarded for project experience using and developing DW applications sourced from complex XML data structures in the last 5 years	6	1 to 2 years = 2 points 2+ to 3 years = 4 points 3+ years = 6 points				
R13	Points will be awarded upon receipt of copy of CBIP certification	20	Copy of CBIP certification = 20 points				
	Total # of points		162				
	Pass mark = 70% or # points		113.4				



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Annex D – Evaluation Criteria

Evaluation Disclaimer

Bidders may propose 1, 2 or 3 resources in response to this RFP.

The mandatory criteria will be evaluated on a “Met/Not Met” (i.e. compliant/non-compliant) basis. **Proposals must demonstrate compliance with all of the following Mandatory requirements and must provide the necessary documentation to support a determination of compliance. Proposals that fail to meet any mandatory requirements will be deemed non-compliant and will be given no further consideration.**

For each of the mandatory and point rated requirements listed below, the Bidder must demonstrate by using project descriptions as executed by the proposed resources. The project description should include the following:

- a. Project Title
- b. Description of project
- c. List of tasks performed by the resource
- d. Start and end date of project (if end date applies) (dates must include month and year)
- e. Start and end date when the resource actually worked in this capacity on this project (dates must include month and year)

Merely stating the experience is not sufficient and the proposal will be deemed non-compliant.

Example: If the mandatory and point rated criteria demands experience in gathering, analyzing and validating findings, it is not sufficient just to state the resource has experience gathering, analyzing and validating findings. The experience must be demonstrated and a reference made to the specific location in the resume where corroborating information can be located in the manner indicated above.

The Contracting Authority reserves the right to request reference(s)* from any of the listed projects to verify and validate the information stated in the proposal. If the reference is unable to verify or validate the information stated in the proposal, the bid will be deemed non-compliant.

The proposal documentation must include detailed Curriculum Vitae of the proposed candidate as part of the technical bid. Indicate the location in your proposal where the requested information can be found for both the mandatory and point rated requirements.

All columns in both the Mandatory and Point Rated Criteria must be filled in by the bidder (except for those designated to be filled in by the CBSA Project/ Technical Authority).

***Reference**

A reference to verify work performed must be a reference provided by a “Client” group or for work conducted in the capacity of the resource category as an employee.

In other words, it cannot be from a colleague or a subordinate, etc.



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MANDATORY REQUIREMENTS

1. Database Analyst Level 3

#	Mandatory Requirement	Bidder Description (include location in proposal)	Bidder Self Score: Met / Not Met	C/BSA Project Authority Scoring and comments - Column to be filled in by the	
				C/BSA Project Authority only	Project Authority Comments**
M1	The proposed resource must have a minimum of 10 years of experience as a Database Analyst working on large-scale DW/BI projects within an IT Environment that demonstrate experience as a Database Analyst in ALL of the following areas 1) Providing input to Data Warehouse Database Design decisions 2) Data Profiling 3) Development of Complex SQL Queries	<ul style="list-style-type: none"> - Provide description as requested in the Evaluation Disclaimer printed above - Indicate where in the proposal corroborating information can be located 			
M2	The proposed resource must have a minimum of 5 years experience in the last 15 years as demonstrating experience with large-scale Data Warehousing projects as a Database Analyst using the Kimball				



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#	Mandatory Requirement	Bidder Description (include location in proposal)	Bidder Self Score: Met / Not Met	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	
				Met/Not Met**	Project Authority Comments**
	Methodology (dimensional models integrated via conformed dimensions)				



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POINT RATED REQUIREMENTS

1. Database Analyst Level 3

#	Point Rated Criteria	Max Score	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	
						Score**	Comments**
R1	The proposed resource should have experience over and above the required 10 years in mandatory criterion M1	50 50	10+ to 11 years = 20pts 11+ to 13 years = 30pts 13+ to 14 years = 40pts 14+ to 15 years = 50pts		Provide description as requested in the Evaluation Disclaimer printed above Indicate where in the proposal corroborating information can be located		
R2	The proposed resource should have experience over and above the required 5 years in mandatory criterion M2	9/9	5 to 7 years = 3 pts 7+ to 10 years = 6pts 10+ years = 9 pts				
R3	Points will be awarded for project experience as a Database Analyst in the areas of: 1) Translating business requirements into specification documents	9/9	1 to 3 years 1pt 3+ to 5 years 3pts 5+ to 7 years = 5pts 7+ to 10 years = 7pts 10+ years = 9pts				

#	Point Rated Criteria	Max Score	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	Comments**
						Score**	
	2) Writing Source to Target mappings						
R4	Points will be awarded for experience with large-scale Data Warehouse projects as a Database Analyst addressing BI/DW performance-related issues in the last 5 years.	3/3	1 to 2 years = 1 points 2+ to 3 years = 2 points 3+ = 3 points				
R5	Points will be awarded for project experience providing input into the creation and/or maintenance of Dimensional Data Models in the last 5 years.	15/15	1 to 2 years = 3points 2+ to 3 years = 6 points 3+ to 4 years = 9 points 4+ to 5 years = 12 points 5+ years = 15 points				
R6	Points will be awarded for project experience using and developing DW applications using IBM InfoSphere DataStage in the last 5 years	3/3	1 to 2 years = 1 points 2+ to 3 years = 2 points 3+ = 3 points				
R7	Points will be awarded for project experience using and developing DW applications using IBM DB2 in the last 5 years	3/3	1 to 2 years = 1 points 2+ to 3 years = 2 points 3+ = 3 points				
R8	Points will be awarded for project experience using and developing DW applications using IBM Data Architect in the last 5 years	3/3	1 to 2 years = 1 points 2+ to 3 years = 2 points 3+ = 3 points				



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#	Point Rated Criteria	Max Score	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	
						Score**	Comments**
R9	Points will be awarded for project experience using and developing DW applications using IBM Cognos BI in the last 5 years	3/3	1 to 2 years = 1 points 2+ to 3 years = 2 points 3+ = 3 points				
R10	Points will be awarded for project experience using and developing DW applications using IBM Puredata or Postgresql in the last 5 years	3/3	1 to 2 years = 1 points 2+ to 3 years = 2 points 3+ = 3 points				
R11	Points will be awarded for project experience using and developing DW applications sourced from complex XML data structures in the last 5 years	3/3	1 to 2 years = 1 points 2+ to 3 years = 2 points 3+ = 3 points				
	Total # of points - 104						



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#	Point Rated Criteria	Max Score	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	
						Score**	Comments**
	Pass mark = 70% or 73 points						

ANNEX A: STATEMENT OF WORK

1) TITLE

Four (4) resources to assist with CBSA initiatives such as eManifest and potentially the Beyond the Border initiatives.

2.0 BACKGROUND

One of the mandates of Canada Border Services Agency (CBSA) is to facilitate commercial trade while keeping the borders of Canada secure. The goal of the eManifest initiative is to contribute in fulfilling this mandate.

eManifest is the third phase of the Advance Commercial Information (ACI) program. With eManifest, it will be mandatory that electronic data be sent to the CBSA prior to the arrival of goods at the border, enhancing the CBSA's overall ability to identify and interdict potentially high-risk shipments while expediting the processing of low risk shipments.

The Beyond the Border Action Plan sets out 32 initiatives that forward a perimeter approach to protect the security of Canada and the United States and strengthen economic competitiveness in both countries by addressing threats early, facilitating trade, economic growth and jobs, integrating cross-border law enforcement, and ensuring there is a critical infrastructure and cyber security.

Objectives range from common business intelligence reporting through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.

3.0 SCOPE

The Common and Corporate Services Division of the CBSA requires four resources on an as required basis to assist with Commercial initiatives, more particularly with the eManifest initiative with the overall duration projected to be one year with the option to extend one more year. The four (4) resources and their scope are:

- One Technology Architect Level 2 within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One Technology Architect Level 3 within an Information Technology (IT) Data Warehouse development environment to develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform, and Load) environment in support of the eManifest initiative and other priority initiatives.
- One IM Architect Level 3, within an Information Technology (IT) Data Warehouse development environment, to analyze existing capabilities and requirements, evaluate existing procedures and methods, identify and document database content, structure and application subsystems, and develop data dictionary and define and document interfaces of manual to automated operations within application subsystems to external systems and between new and existing systems in support of the eManifest initiative and other priority initiatives.
- One Database Analyst Level 3, within an Information Technology (IT) Data Warehouse development environment with at least 10 years' experience, to work on large-scale Data Mining and Dimensional Data-Warehousing (modeling design principles of the Kimball Methodology: dimensional models integrated via conformed dimensions) in support of the eManifest initiative and other priority initiatives.

For more details please refer to the Resource Categories, Tasks and Deliverables section below.

4.0 TECHNICAL ENVIRONMENT

The Contractor will provide the Services in conformance with CBSA's standard desktop operating software, currently Microsoft Office Suite (including Word, Excel, and PowerPoint).

All deliverables provided by the contractor will become integrated within CBSA's technical and operational environment as specified by CBSA.

The technical environment at CBSA is comprised of several technologies. The following are of more particular interest, including, but not limited to:

- 1) IBM InfoSphere DataStage
- 2) IBM InfoSphere Information Server (Metadata Workbench, Business Glossary, Information Analyzer)
- 3) IBM DB2 LUW
- 4) IBM/zOS DB2
- 5) IBM Puredata for Analytics
- 6) Unix/Linux
- 7) ERWin Data Modeler
- 8) IBM Data Architect
- 9) IBM Cognos
- 10) IBM SPSS
- 11) IBM Change Data Capture
- 12) SQL
- 13) XML
- 14) Microsoft Office Suite
- 15) JIRA
- 16) Wik

5.0 Resource Categories, Tasks and Deliverables

5.1 Resource 1 – Technology Architect Level 2

5.1.1 TASKS

- 5.1.1.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment.
- 5.1.1.2 Identify the CBSA business, IT and application policies and requirements that drive out a particular solution.
- 5.1.1.3 Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision.
- 5.1.1.4 Perform impact analysis by required due dates of applicable technology changes when requested.
- 5.1.1.5 Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure.
- 5.1.1.6 Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders.
- 5.1.1.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation.
- 5.1.1.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse).
- 5.1.1.9 Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse.
- 5.1.1.10 Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or Industry standards when no CBSA standard exist.
- 5.1.1.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology.
- 5.1.1.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC.
- 5.1.1.13 Define and assist with ETL tool installation, configuration and integration strategies.

- 5.1.1.14** Automate data feeds from external third party sources outside the CBSA organization as required.
- 5.1.1.15** Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework.
- 5.1.1.16** Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made.
- 5.1.1.17** Participate in ERWin and IDA model reviews.
- 5.1.1.18** Shred XML Data into relational tables using DataStage.
- 5.1.1.19** Develop and maintain an integrated ETL architecture.
- 5.1.1.20** Develop detailed development plans.
- 5.1.1.21** Perform code walkthroughs.
- 5.1.1.22** Develop ETL specifications and ETL design diagrams.
- 5.1.1.23** Define ETL metadata capture solution.
- 5.1.1.24** Define primary and secondary data captures strategies for internal and external data sources.
- 5.1.1.25** Provide advice to developers and designers.
- 5.1.1.26** Coach, mentor and train ETL designers and developers to perform any of the above.

Note: Usage of IBM WebSphere DataStage product line, used within a Data Warehouse and Business Intelligence environment.

Note: Usage of DataStage ETL frameworks and architectures for large scale data warehousing. Specialties include IBM DataStage, UDB/DB2.

5.1.2 DELIVERABLES

The Contractor through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.1.2.1** Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables.
- 5.1.2.2** Provide Option Analysis documents as requested by technical authority in (Word, Excel or PDF) format.
- 5.1.2.3** Write documentation as required.
- 5.1.2.4** Please refer to **5.1.1 Tasks** for other deliverables.
- 5.1.2.5** Please refer to **8.0 Reporting Requirements** for progress reports.

5.2 Resource 2 – Technology Architect Level 3

5.2.1 TASKS

- 5.2.1.1** Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL (Extract, Transform and Load) environment.
- 5.2.1.2** Identify the CBSA business, IT and application policies and requirements that drive out a particular solution.

- 5.2.1.3** Ensure the integration of all aspects of technology solutions are consistent with the CBSA vision.
- 5.2.1.4** Perform impact analysis by required due dates of applicable technology changes when requested
- 5.2.1.5** Provide ETL, Datastage and applicable support to applications and/or technical support teams in the proper application of existing infrastructure.
- 5.2.1.6** Review in-house or developed application and program design or technical infrastructure design to ensure adherence to enterprise and development standards and to recommend performance improvements to the stakeholders.
- 5.2.1.7** Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation
- 5.2.1.8** Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse).
- 5.2.1.9** Ensure ETL technical alignment with the CBSA ETL Development Standards amongst CBSA major projects for Data Warehouse
- 5.2.1.10** Develop ETL best practices, standards, templates and methodologies in a Datastage environment in accordance with the CBSA DataStage Standards and CBSA ETL Development Standards or Industry standards when no CBSA standard exist
- 5.2.1.11** Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology.
- 5.2.1.12** Review Business Intelligence (BI) client requirements documentation such as BRD and BUC
- 5.2.1.13** Define and assist with ETL tool installation, configuration and integration strategies.
- 5.2.1.14** Automate data feeds from external third party sources outside the CBSA organization as required.
- 5.2.1.15** Participate in the design, development and testing of ETL jobs, scripts and routines in accordance with the Service Lifecycle Management Framework.
- 5.2.1.16** Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made.
- 5.2.1.17** Participate in ERWin and IDA model reviews.
- 5.2.1.18** Shred XML Data into relational tables using DataStage.
- 5.2.1.19** Develop and maintain an integrated ETL architecture
- 5.2.1.20** Develop detailed development plans
- 5.2.1.21** Perform code walkthroughs.
- 5.2.1.22** Develop ETL specifications and ETL design diagrams
- 5.2.1.23** Define ETL metadata capture solution.
- 5.2.1.24** Define primary and secondary data captures strategies for internal and external data sources
- 5.2.1.25** Provide advice to developers and designers.
- 5.2.1.26** Coach, mentor and train ETL designers and developers to perform any of the above

Note: Knowledge of IBM WebSphereDataStage product line, used within a Data Warehouse and Business Intelligence environment

Note: Knowledge of DataStage ETL frameworks and architectures for large scale data warehousing, Specialties Include IBM DataStage, UDB/DB2

5.2.2 DELIVERABLES

The Contractor through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead

- 5.2.2.1** Upon request, provide impact documents in (Word, Excel or PDF) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and deliverables
- 5.2.2.2** Provide Option Analysis documents as requested by technical authority, in (Word, Excel or PDF) format
- 5.2.2.3** Write documentation as required.
- 5.2.2.4** Please refer to **5.2.1 Tasks** for other deliverables
- 5.2.2.5** Please refer to **8.0 Reporting Requirements** for progress reports

5.3 Resource 3 – IM Architect Level 3

5.3.1 TASKS

- 5.3.1.1** Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration
- 5.3.1.2** Develop and document detailed statements of requirements.
- 5.3.1.3** Develop and support the data architecture strategy for eManifest, based on situational awareness of various business and IT drivers
- 5.3.1.4** Apply a structured business and data architecture approach and methodology for capturing the key views of the eManifest project
- 5.3.1.5** Define linkage between data elements shared between eManifest and the Data Warehouse Using the current Data Warehouse metadata tool set – IBM Infosphere Metadata Workbench and Business Glossary
- 5.3.1.6** Provide expert advice in defining new business requirements and opportunities to apply efficient and effective solutions across all eManifest pillars in traditional BI/Reporting.
- 5.3.1.7** Provide training and guidance of knowledge acquired through work and research to CBSA junior staff who are working on the eManifest Project, which includes transfer of knowledge
- 5.3.1.8** Liaise with pillar business and IT representatives to assess CBSA program needs
- 5.3.1.9** Gather and define Business Intelligence solutions requirements
- 5.3.1.10** Analyse and document eManifest Data Warehouse data within the current Data Warehouse metadata toolset – IBM Infosphere Metadata Workbench and Business Glossary
- 5.3.1.11** Perform cost/benefit analysis of implementing new processes and solutions
- 5.3.1.12** Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies
- 5.3.1.13** Provide advice in defining new requirements and opportunities for applying efficient and effective solutions, identify and provide preliminary costs of potential options
- 5.3.1.14** Analyse and document end-user request for improvements or alterations
- 5.3.1.15** Prepare briefing material and presentations for senior management.
- 5.3.1.16** Review and provide feedback on existing Architecture
- 5.3.1.17** Communicate with stakeholders to define requirements
- 5.3.1.18** Develop and coordinate internal policies and processes
- 5.3.1.19** Provide input into Data Warehouse Design decisions
- 5.3.1.20** Develop Complex SQL queries
- 5.3.1.21** Examine data available in existing data source and collect statistics about that data
- 5.3.1.22** Work within the Service Lifecycle Management Framework

5.3.2 DELIVERABLES

The Contractor, through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.3.2.1** Detailed Business Requirements Documents for use by IT stakeholders in designing and constructing Reporting Solutions
- 5.3.2.2** Quality Assurance plans to guide testers
- 5.3.2.3** Options Analysis documents (as required)
- 5.3.2.4** Risk Dashboard business requirements document
- 5.3.2.5** Written and verbal summaries of meetings with stakeholders
- 5.3.2.6** Write documentation as required.
- 5.3.2.7** Please refer to **5.3.1 Tasks** for other deliverables
- 5.3.2.8** Please refer to **8.0 Reporting Requirements** for progress reports.

5.4 Resource 4 – Database Analyst Level 3

5.4.1 TASKS

- 5.4.1.1** Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data)
- 5.4.1.2** Provide support, develop and present DW/BI strategies, roadmaps and project plans
- 5.4.1.3** Develop Complex SQL queries and utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users
- 5.4.1.4** Assist DBAs with BI/DW database performance and design related issues.
- 5.4.1.5** Provide support to develop an Enterprise Data Warehouse Model including logical model, integration of data from multiple subject areas
- 5.4.1.6** Identify requirements for improvements to existing databases by determining users' information requirements and system performance and functional requirements
- 5.4.1.7** Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database
- 5.4.1.8** Mediates and resolves conflicts among users' needs for data.
- 5.4.1.9** Advise programmers, analysts, and users about the efficient use of data
- 5.4.1.10** Provide input into Data Warehouse Design decisions
- 5.4.1.11** Examine data available in existing data source and collect statistics about that data
- 5.4.1.12** Work within the Service Lifecycle Management Framework

5.4.2 DELIVERABLES

The Contractor, through its resource provided under the contract must provide the following deliverables. All directions/instructions related to any deliverable will be provided by the Project Manager/Lead for the eManifest Project. All deliverables must be provided to the Project Manager/Lead within the timeframe and format determined when the Project Manager/Lead provides the directions/instructions related to each deliverable. Final deliverables must be completed in a manner acceptable to the Project Manager/Lead.

The following list of deliverables is a minimum requirement. Additional deliverables or multiple drafts, revisions or updates may be required to any deliverable as demanded by the Project Manager/Lead.

- 5.4.2.1** Examine data available in existing data source and collect statistics and information about that data via data profiling
- 5.4.2.2** Develop Complex SQL Queries
- 5.4.2.3** Reconcile between source data and data within the data warehouse
- 5.4.2.4** Translate business requirements into specification documents
- 5.4.2.5** Provide input to Data Warehouse Database Design decisions
- 5.4.2.6** Write documentation as required
- 5.4.2.7** Please refer to **5.4.1 Tasks** for other deliverables
- 5.4.2.8** Please refer to **8.0 Reporting Requirements** for progress reports.

6.0 CONSTRAINTS

- 6.1** At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or log (e.g. VPN) be permitted
- 6.2** The contractor must comply with CBSA internal security policies, directives, standards and guidelines at all times during the contract

Note: The CBSA internal security policies, directives and standards will be provided to the consultant by CBSA upon start date.

7.0 LOCATION OF WORK AND CLIENT SUPPORT

All work will be performed in the National Capital Region on-site at CBSA offices. The Business Architect may be required to travel within the NCR in order to attend meetings at various CBSA offices during the period of the contract.

The CBSA will provide a workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW. It should be noted that included with these tools are a set of document templates that will be provided to the resource when available.

The contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

8.0 REPORTING REQUIREMENTS

Timesheets and progress reports are to be provided weekly or monthly depicting hours worked on a daily basis.

9.0 LANGUAGE

The resource will be required to perform the work in English.

10.0 ACRONYMS DEFINED

BI	Business Intelligence
BRD	Business Requirements Document
BUC	Business Use Case
CBSA	Canada Border Services Agency
DM	Data Management
DW	Data Warehouse
DW/BI	Data Warehouse / Business Intelligence
ETL	Extract, Transform and Load
IDA	InfoSphere Data Architect

IM	Information Management
IT	Information Technology
SQL	Structured Query Language
UDB	Universal Database
VPN	Virtual Private Network
XML	Extensible Markup Language

CONTENT OF A STATEMENT OF WORK (SOW)

TITLE	Database Analyst to assist with eManifest and Beyond the Border initiatives Level 3
BACKGROUND	<p>The CBSA Enterprise Data Warehouse (EDW) supports the business objectives of various high priority CBSA projects including eManifest and Beyond the Border. Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.</p> <p>An experienced Database Analyst is required to work on large-scale Data Mining and Dimensional Data Warehousing (modeling design principles of the Kimball Methodology, dimensional models integrated via conformed dimensions). They will provide in-depth data analysis and will be expected to deliver in ALL of the following areas:</p> <ul style="list-style-type: none"> • Data Profiling. • Development of Complex SQL Queries. • Reconciliation between source data and data within the Data Warehouse. • Translating business requirements into specification documents. • Providing input to Data Warehouse Database Design decisions
SCOPE OF WORK	IT professional services are required for a period of 1 year from date of contract with 2 options to extend for 12 months. Services will be required in the following category: Architect, Level 3
TECHNICAL ENVIRONMENT	Office tools – Microsoft Office IBM z/OS DB2 IBM LUW DB2 IBM Puredata for Analytics IBM InfoSphere DataStage IBM Data Architect IBM Cognos IBM SPSS
TASKS	<p>The major tasks that the resource will have to fulfill within the contract are as follows:</p> <p>Database Analyst</p> <ul style="list-style-type: none"> • Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data). • Provide support, develop and present DW/BI strategies, roadmaps and project plans. • Utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users. • Assist DBAs with BI/DW database performance and design

REQUIREMENTS	<ul style="list-style-type: none">• Weekly written status reports• Timesheets - Showing hours worked on a daily basis (provided monthly or as agreed upon).
LANGUAGE OF WORK	<ul style="list-style-type: none">• English
LOCATION OF WORK	<ul style="list-style-type: none">• All work will be performed in the National Capital Region on-site at CBSA offices.• Primary Office location is 333 North River Rd Ottawa, Ontario.



Government of Canada Gouvernement du Canada

Contract Number / Numéro du contrat

Security Classification / Classification de sécurité

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

1 Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine		2 Branch or Directorate / Direction générale ou Direction	
C83A		ISTB	
3 a) Subcontract Number / Numéro du contrat de sous-traitance		3 b) Name and Address of Subcontractor / Nom et adresse du sous-traitant	
4 Brief Description of Work / Brève description du travail One Technology Architect Level2, One Technology Architect Level3, One Database Analyst Level 3. One Business Architect Level 3 to assist with E-Manifest initiatives. See corresponding SOWs for further information.			
5 a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
5 b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
6 Indicate the type of access required / Indiquer le type d'accès requis			
6 a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7 c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7 c)		<input type="checkbox"/> No / Non <input checked="" type="checkbox"/> Yes / Oui	
6 b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
6 c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui	
7 a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès			
Canada <input checked="" type="checkbox"/>		NATO / OTAN <input type="checkbox"/>	
		Foreign / Étranger <input type="checkbox"/>	
7 b) Release restrictions / Restrictions relatives à la diffusion			
No release restrictions Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>		All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	
Not releasable À ne pas diffuser <input type="checkbox"/>			
Restricted to / Limité à : <input type="checkbox"/>		Restricted to / Limité à : <input type="checkbox"/>	
Specify country(ies) / Préciser le(s) pays		Specify country(ies) / Préciser le(s) pays :	
		Restricted to / Limité à : <input type="checkbox"/>	
		Specify country(ies) / Préciser le(s) pays :	
7 c) Level of information / Niveau d'information			
PROTECTED A <input checked="" type="checkbox"/>		NATO UNCLASSIFIED <input type="checkbox"/>	
PROTECTED B <input checked="" type="checkbox"/>		NATO NON CLASSIFIÉ <input type="checkbox"/>	
PROTECTED C <input checked="" type="checkbox"/>		NATO RESTRICTED <input type="checkbox"/>	
CONFIDENTIAL <input type="checkbox"/>		NATO DIFFUSION RESTREINTE <input type="checkbox"/>	
CONFIDENTIEL <input type="checkbox"/>		NATO CONFIDENTIAL <input type="checkbox"/>	
SECRET <input checked="" type="checkbox"/>		NATO CONFIDENTIEL <input type="checkbox"/>	
SECRET <input type="checkbox"/>		NATO SECRET <input type="checkbox"/>	
TOP SECRET <input type="checkbox"/>		NATO SECRET <input type="checkbox"/>	
TRÈS SECRET <input type="checkbox"/>		COSMIC TOP SECRET <input type="checkbox"/>	
TOP SECRET (SIGINT) <input type="checkbox"/>		COSMIC TRÈS SECRET <input type="checkbox"/>	
TRÈS SECRET (SIGINT) <input type="checkbox"/>			
		PROTECTED A <input type="checkbox"/>	
		PROTÉGÉ A <input type="checkbox"/>	
		PROTECTED B <input type="checkbox"/>	
		PROTÉGÉ B <input type="checkbox"/>	
		PROTECTED C <input type="checkbox"/>	
		PROTÉGÉ C <input type="checkbox"/>	
		CONFIDENTIAL <input type="checkbox"/>	
		CONFIDENTIEL <input type="checkbox"/>	
		SECRET <input type="checkbox"/>	
		SECRET <input type="checkbox"/>	
		TOP SECRET <input type="checkbox"/>	
		TRÈS SECRET <input type="checkbox"/>	
		TOP SECRET (SIGINT) <input type="checkbox"/>	
		TRÈS SECRET (SIGINT) <input type="checkbox"/>	

TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité

Canada

CONTENT OF A STATEMENT OF WORK (SOW)

TITLE	Database Analyst to assist with eManifest and Beyond the Border initiatives Level 3
BACKGROUND	<p>The CBSA Enterprise Data Warehouse (EDW) supports the business objectives of various high priority CBSA projects including eManifest and Beyond the Border. Objectives range from common business intelligence reporting, through to data mining and operational business intelligence activities. There are a number of concurrent data warehouse developments and infrastructure projects underway within the organization.</p> <p>An experienced Database Analyst is required to work on large-scale Data Mining and Dimensional Data Warehousing (modeling design principles of the Kimball Methodology, dimensional models integrated via conformed dimensions). They will provide in-depth data analysis and will be expected to deliver in ALL of the following areas:</p> <ul style="list-style-type: none"> • Data Profiling. • Development of Complex SQL Queries. • Reconciliation between source data and data within the Data Warehouse. • Translating business requirements into specification documents. • Providing input to Data Warehouse Database Design decisions
SCOPE OF WORK	IT professional services are required for a period of 1 year from date of contract with 2 options to extend for 12 months. Services will be required in the following category: Architect, Level 3
TECHNICAL ENVIRONMENT	Office tools – Microsoft Office IBM z/OS DB2 IBM LUW DB2 IBM Puredata for Analytics IBM InfoSphere DataStage IBM Data Architect IBM Cognos IBM SPSS
TASKS	<p>The major tasks that the resource will have to fulfill within the contract are as follows:</p> <p>Database Analyst</p> <ul style="list-style-type: none"> • Develop a comprehensive understanding of CBSA Data Warehouse processes and content (data). • Provide support, develop and present DW/BI strategies, roadmaps and project plans. • Utilize SQL expertise to support and assist Data Modelers, Data Warehouse Analysts, Testers and End Users. • Assist DBAs with BI/DW database performance and design

REQUIREMENTS	<ul style="list-style-type: none">• Weekly written status reports• Timesheets - Showing hours worked on a daily basis (provided monthly or as agreed upon).
LANGUAGE OF WORK	<ul style="list-style-type: none">• English
LOCATION OF WORK	<ul style="list-style-type: none">• All work will be performed in the National Capital Region on-site at CBSA offices.• Primary Office location is 333 North River Rd Ottawa, Ontario.

MANDATORY REQUIREMENTS – Technology Architect, Level 2

*Column intended to be filled in by the CBSA Project Authority only

**Vendor can insert more tables for resource B and C if needed.

#	Mandatory Requirement	Bidder Description (include location in bid) Resource Name (1 of 1) : _____	Bidder Self Score: Met / Not Met	**CBSA Project Authority Scoring and Comments	
				**Met/Not Met	**Project Authority Comments
		Provide description as requested in the Evaluation Disclaimer printed above Indicate where in the resume corroborating information can be located.	The bidder should provide a self-score		
M1	The proposed resource must have a minimum of seven (7) years of experience as a Technology Architect within an IT Environment				
M2	The proposed resource must have a minimum of seven (7) years of experience with n the last 10 years implementing data warehousing in an Extract, Transform and Load (ETL) environment				

#	Mandatory Requirement	Bidder Description (include location in bid) Resource Name (1 of 1) : _____	Bidder Self Score: Met / Not Met	**CESA Project Authority Scoring and Comments	
				**Met/Not Met	**Project Authority Comments
M1	The proposed resource must have a minimum of five (5) years of experience with n the last eight (8) years using 1) DataStage as the primary tool to acquire data from a Database Management System example: Mainframe, Sybase, SQL Server) source and to load data into a Data Warehouse environment				
M4	The proposed resource must have a minimum of three (3) years of experience with n the last five (5) years working with IBM DataStage 8 0 or higher.				

#	Mandatory Requirement	Bidder Description (include location in bid) Resource Name (1 of 1) : _____	Bidder Self Score: Met / Not Met	**CEBSA Project Authority Scoring and Comments	
				**Met/Not Met	**Project Authority Comments
M5	The proposed resource must have a minimum of three (3) years of experience with n the last five (5) years scripting within a Unix environment				
M6	The proposed resource must have two(2) years of experience within the last five (5) years managing the work schedule and work packages for other packages for other Extract, Transform and Load (ETL) developers.				
M7	The proposed resource must have a minimum of four (4) years working experience with n the last six (6) years				

#	Mandatory Requirement	Bidder Description (include location in bid) Resource Name (1 of 1) : _____	Bidder Self Score: Met / Not Met	**CEBSA Project Authority Scoring and Comments	
				**Met/Not Met	**Project Authority Comments
	with the IBM DB2 RDBMS (Relational Database Management System) in a DataStage environment				

POINT RATED REQUIREMENTS Technology Architect, Level 2

(Column intended to be filled in by the CBSA Project Authority only)**)

#	Point Rated Criteria	Max Score	Point Grid	Bidder Response and Self- Score	** CBSA Project Authority Scoring and Comments	
					**Score	**Comments
R1	Points will be awarded where the proposed resource has experience within the last 10 years working as a DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs, scripts and/or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues	/10	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ to 5 years = 8 points 5+ years = 10 points	Provide description as requested in the Evaluation Disclaimer printed above		
				Explain how points are obtained and indicate where in the resume corroborating information is located		
				The bidder should provide a self-score.		

*Complex is defined as a job, script or routine which

#	Point Rated Criteria	Max Score	Point Grid	Bidder Response and Self- Score	**CBSA Project Authority Scoring and Comments	
					**Score	**Comments
	1) Has two or more join stages or transformer stages, and 2) Has data sources with two or more transformation rules					
R2	Points will be awarded where the proposed resource has experience over and above the required three (3) years of <i>experience within the last five (5) years working with IBM DataStage 8.0 or higher</i> NOTE The window of experience is 10 years for this criterion	/10	3+ to 4 years = 2 points 4+ to 5 years = 4 points 5+ to 6 years = 6 points 6+ to 7 years = 8 points 7+ years = 10 points			
R3	Points will be awarded where the proposed resource has experience over and above the required three (3) years of <i>experience within the last five (5) years scripting within a Unix environment</i> NOTE The window of experience is 15 years for this criterion	/10	3+ to 5 years = 2 points 5+ to 7 years = 4 points 7+ to 9 years = 6 points 9+ to 10 years = 8 points 10+ years = 10 points			

#	Point Rated Criteria	Max Score	Point Grid	Bidder Response and Self- Score	**CBSA Project Authority Scoring and Comments	
					**Score	**Comments
R4	<p>Points will be awarded where the proposed resource has experience as an ETL Architect within the last 10 years performing the following tasks</p> <p>a) Defining source, target and staging data repositories</p> <p>b) Defining data transformation processes</p> <p>c) Defining data movement schedules</p> <p>d) Defining volumetric, hardware and software requirements and configurations</p> <p>NOTE In the proposal, the bidder must clearly identify the task (a through d) and provide a description of the experience gained for the task identified</p>	/16	<p>For task a): 1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years = 4 points</p> <p>For task b): 1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years = 4 points</p> <p>For task c): 1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years = 4 points</p> <p>For task d): 1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points</p>			

#	Point Rated Criteria	Max Score	Point Grid	Bidder Response and Self- Score	**CBSA Project Authority Scoring and Comments	
					**Score	**Comments
			= 3 points 4+ years = 4 points			
R5	<p>Points will be awarded where the proposed resource has experience within the last 10 years performing the following tasks</p> <ul style="list-style-type: none"> a) Developing ETL standards and best practices b) Developing ETL guidelines c) Developing ETL templates <p>NOTE In the proposal, the bidder must clearly identify the task (a through c) and provide a description of the experience gained for the task identified.</p>	/12	<p>Fortask a): 1+ to 2 years = 1 point</p> <p>2+ to 3 years = 2 points</p> <p>3+ to 4 years = 3 points</p> <p>4+ years = 4 points</p> <p>Fortask b): 1+ to 2 years = 1 point</p> <p>2+ to 3 years = 2 points</p> <p>3+ to 4 years = 3 points</p> <p>4+ years = 4 points</p> <p>Fortask c): 1+ to 2 years = 1 point</p>			

#	Point Rated Criteria	Max Score	Point Grid	Bidder Response and Self- Score	**CBSA Project Authority Scoring and Comments	
					**Score	**Comments
			2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years = 4 points			
R6	Points will be awarded where the proposed resource has experience over and above the required two years in mandatory criterion M6 <i>The proposed resource must have two years of experience within the last five years managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers</i> NOTE The window of experience has been increased from 5 to 10 years for this criterion.	/10	2+ to 3 years = 2 points 3+ to 4 years = 4 points 4+ to 5 years = 6 points 5+ to 6 years = 8 points 6+10 years = 10 points			

#	Point Rated Criteria	Max Score	Point Grid	Bidder Response and Self- Score	**CBSA Project Authority Scoring and Comments	
					**Score	**Comments
R7	<p>Points will be awarded where the Bidder can demonstrate that the Bidder's company has incorporated environmental practices into their on-going IT related business activities</p> <p>Examples could include</p> <ul style="list-style-type: none"> Electronic documents / deliverables, Conduct meetings via telephone, teleconference and/or video conferencing in order to minimize travel requirements, Use of properties with environmental ratings <p>NOTE DO NOT SUBMIT YOUR ENVIRONMENTAL PLAN A paragraph summary up to a maximum of (xxx) words will be accepted</p>	/5	One point will be awarded for each environmental practice incorporated by the company into on-going IT related business activities to a maximum of 5 points			

#	Point Rated Criteria	Max Score	Point Grid	Bidder Response and Self-Score	**CBSA Project Authority Scoring and Comments	
					**Score	**Comments
	Points will be awarded where each proposed resource has experience within the last 10 years shredding XML data into non-XML data types in a relational database using the XML stages in DataStage.	/10	3+ to 6 months = 2 points 9+ to 9 months = 6 points 9+ months = 10 points			
Total		83		TOTAL: Out of 83		
Minimum Threshold (70% or 58 points)				The proposed candidate must meet minimum this threshold.		

Statement of Work

One Technology Architect Level 2

1. TITLE

One Technology Architect Level 2 to assist with the Commercial (E-Manifest) initiative.

2. BACKGROUND

The Canada Border Services Agency (CBSA) Technical Authority requires the services of one Technology Architect for the Data Warehouse Services team for support and development of the Agency's Data Warehouse program. The Technology Architect will be responsible for developing and maintaining the Agency Data Warehouse's architecture, frameworks and strategies as they apply to Extract, Transform and Load (ETL), in order to ensure a robust and sustainable ETL environment within the overall Data Warehouse environment.

3. SCOPE OF WORK

IT Professional services will be required for a period of one year from the date of contract with the option to extend for two additional 1-year periods. Services will be required in the following resource category:

Describe, in general terms, the range, extent and boundaries of the work and the duration of the overall project.

4. TASKS

- 4.1 Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL environment.
- 4.2 Identify the policies and requirements that drive out a particular solution.
- 4.3 Ensures the integration of all aspects of technology solutions.
- 4.4 Perform impact analysis of technology changes.
- 4.5 Provide support to applications and/or technical support teams in the proper application of existing infrastructure.
- 4.6 Review application and program design or technical infrastructure design to ensure adherence to standards and to recommend performance improvements.

- 4.7 Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation.
- 4.8 Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse).
- 4.9 Ensure ETL technical alignment amongst CBSA major projects for Data Warehouse.
- 4.10 Develop ETL best practices, standards, templates and methodologies in a Datastage environment.
- 4.11 Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology.
- 4.12 Review Business Intelligence (BI) client requirements documentation such as BRD and BUC.
- 4.13 Define and assist with ETL tool installation, configuration and integration strategies.
- 4.14 Automate data feeds from external third party sources outside the CBSA organization as required;
- 4.15 Participate in the design, development and testing of ETL jobs, scripts and routines.
- 4.16 Develop the ETL requirements and formulate the ETL architecture document that would require modification to any changes made
- 4.17 Participate in ERWin and IDA model reviews
- 4.18 Shred XML Data into relational tables using DataStage.
- 4.19 Develop and maintain an integrated ETL architecture:
- 4.20 Develop detailed development plans;
- 4.21 Develop and maintain ETL guidelines including best practices, templates and standards;
- 4.22 Perform code walkthroughs;
- 4.23 Develop ETL specifications and ETL design diagrams;
- 4.24 Define ETL metadata capture solution.
- 4.25 Define primary and secondary data captures strategies for internal and external data sources
- 4.26 Provide advice to developers and designers.
- 4.27 Coach, mentor and train ETL designers and developers to perform any of the above.

Note: Usage of IBM WebSphereDataStage product line, used within a Data Warehouse and Business intelligence environment.

Note: Usage of DataStage ETL frameworks and architectures for large scale data warehousing; Specialties Include: IBM DataStage, UDB/DB2.

5. TECHNICAL ENVIRONMENT

- IBM Information Server DataStage
- IBM Information Server suite (Information Analyzer, Metadata Workbench, Business Glossary)
- IBM DB2 RDBMS. (Relational Database Management System)
- Unix, Linux

- IBM Pure Data
- ERWin Data Modeler, IBM IDA

6. CLIENT SUPPORT

The CBSA Data Warehouse Services team will provide an appropriate workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW.

The contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required processing, store, and or transmitting CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

7. DELIVERABLES

- 7.1 Provide impact documents in (Word or Excel or PDF version XX) format which include detailed technical tasks to be completed as well as level of effort required to complete these tasks, assumptions and dependencies
- 7.2 Provide Option Analysis documents as requested by technical authority; in (Word or Excel or PDF version XX) format.

8. REPORTING REQUIREMENTS

Timesheets are to be provided weekly or monthly depicting hours worked on a daily basis.

9. CONSTRAINTS

- 9.1 CBSA data is not to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or link (e.g VPN) be permitted;
- 9.2 The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

10. WORK LOCATION

All work will be performed in the National Capital Region on-site at CBSA offices.

The Primary Office location is 333 North River Rd Ottawa, Ontario.

11. ACCEPTANCE OF WORK

All services rendered under any Contract are subject to inspection by the Project Authority. The Project Authority shall have the right to reject any service that is not considered satisfactory, or require their correction before payment will be authorized.

12. ACRONYMS DEFINED

ETL	Extract, Transform and Load
BI	Business Intelligence
DM	Data Management
DW	Data Warehouse



Canada Border
Services Agency

Agence des services
frontaliers du Canada

Annex D – Evaluation Criteria

Evaluation Disclaimer

Bidders may propose 1, 2 or 3 resources in response to this RFP.

The mandatory criteria will be evaluated on a “Met/Not Met” (i.e. compliant/non-compliant) basis. Proposals must demonstrate compliance with all of the following Mandatory requirements and must provide the necessary documentation to support a determination of compliance. Proposals that fail to meet any mandatory requirements will be deemed non-compliant and will be given no further consideration.

For each of the mandatory and point rated requirements listed below, the Bidder must demonstrate by using project descriptions as executed by the proposed resources. The project description should include the following:

- a. Project Title
- b. Description of project
- c. List of tasks performed by the resource
- d. Start and end date of project (if end date applies) (dates must include month and year)
- e. Start and end date when the resource actually worked in this capacity on this project (dates must include month and year)

Merely stating the experience is not sufficient and the proposal will be deemed non-compliant.

Example: If the mandatory and point rated criteria demands experience in gathering, analyzing and validating findings, it is not sufficient just to state the resource has experience gathering, analyzing and validating findings. The experience must be demonstrated and a reference made to the specific location in the resume where corroborating information can be located in the manner indicated above.

The Contracting Authority reserves the right to request reference(s)* from any of the listed projects to verify and validate the information stated in the proposal. If the reference is unable to verify or validate the information stated in the proposal, the bid will be deemed non-compliant.

The proposal documentation must include detailed Curriculum Vitae of the proposed candidate as part of the technical bid. Indicate the location in your proposal where the requested information can be found for both the mandatory and point rated requirements.

All columns in both the Mandatory and Point Rated Criteria must be filled in by the bidder (except for those designated to be filled in by the CBSA Project/ Technical Authority).

*Reference

A reference to verify work performed must be a reference provided by a “Client” group or for work conducted in the capacity of the resource category as an employee.

In other words, it cannot be from a colleague or a subordinate, etc.

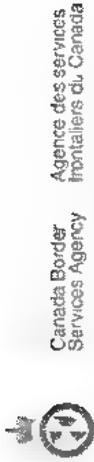


MANDATORY REQUIREMENTS

1. Technology Architect Level 3

#	Mandatory Requirement	Bidder Description (include location in proposal)	Bidder Self Score: Met / Not Met	C/BSA Project Authority Scoring and comments - Column to be filled in by the Project Authority	
				C/BSA Project Authority only Met/Not Met**	Project Authority Comments**
M1	The proposed resource must have a minimum of 10 years of experience as a Technology Architect within an IT Environment	<ul style="list-style-type: none">- Provide description as requested in the Evaluation Disclaimer printed above- Indicate where in the proposal corroborating information can be located			
M2	The proposed resource must have a minimum of 10 years of experience within the last 15 years implementing data warehousing in an Extract, Transform and Load (ETL) environment				
M3	The proposed resource must have a minimum of 8 years of experience within the last 10 years using DataStage as the primary tool to acquire data from Mainframe and Sybase sources and to load data into a Data Warehouse environment				
M4	The proposed resource must have a minimum of 4 years of experience within the last 6				

3



POINT RATED REQUIREMENTS

1. Technology Architect Level 3

#	Point Rated Criteria	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	Comments**
				Provide description as requested in the Evaluation Disclaimer printed above Ind cate where in the proposal corroborating information can be located		
R1	The proposed resource should have experience within the last 10 years working as a DataStage ETL Architect in a Data Warehousing environment developing complex* ETL jobs, scripts and or routines to feed relational and dimensional (star schema) data repositories and resolving ETL performance issues *Complex is defined as a job, script or routine which: 1) Has two or more join stages and or transformer stages, and 2) Has data sources with two or more	1+ to 2 years = 2 points 2+ to 3 years = 4 points 3+ to 4 years = 6 points 4+ to 5 years = 8 points 5+ years = 10 points				

#	Point Rated Criteria	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	
					Score**	Comments**
	transformation rules					
R2	<p>The proposed resource should have experience over and above the required 5 years in mandatory criterion M5;</p> <p><i>The proposed resource must have a minimum of 5 years of experience within the last 10 years scripting within a Unix environment</i></p> <p>The window of experience has been increased from 10 to 15 years for this criterion</p>	<p>5+ to 6 years 2 points 6+ to 7 years 4 points 7+ to 8 years 6 points 8+ to 9 years 8 points 9+ years 10 points</p>				
R3	<p>The proposed resource has experience as an ETL Architect within the last 10 years performing the following tasks:</p> <p>a) Defining source, target and staging data repositories</p> <p>b) Defining data transformation processes</p> <p>c) Defining data movement schedules</p>	<p>For task a):</p> <p>1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years = 4 points</p> <p>For task b):</p> <p>1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years = 4 points</p> <p>For task c):</p> <p>1+ to 2 years = 1 point</p>				



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#	Point Rated Criteria	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	Comments**
	<p>d) Defining volumetric, hardware and software requirements and configurations</p> <p>In the proposal, the bidder should clearly identify the task (a through d) and provide a description of the experience gained for the task identified</p>	<p>2+ to 3 years 2 points 3+ to 4 years 3 points 4+ years 4 points</p> <p>For task d) 1+ to 2 years 1 point 2+ to 3 years = 2 points 3+ to 4 years 3 points 4+ years 4 points</p>				
R4	<p>The proposed resource should have experience within the last 10 years performing the following tasks:</p> <p>a) Developing ETL standards and best practices</p> <p>b) Developing ETL guidelines</p> <p>c) Developing ETL templates</p> <p>In the proposal, the bidder should clearly identify the task (a through c) and provide a description of the experience gained for the</p>	<p>For task a) 1+ to 2 years 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years 4 points</p> <p>For task b) 1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years 3 points 4+ years = 4 points</p> <p>For task c) 1+ to 2 years = 1 point 2+ to 3 years = 2 points 3+ to 4 years = 3 points 4+ years 4 points</p>				



#	Point Rated Criteria	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only	
					Score**	Comments**
	task identified.					
R5	<p>The proposed resource should have experience over and above the required two years in mandatory criterion M6;</p> <p><i>The proposed resource must have two years of experience within the last 5 years managing the work schedule and work packages for other Extract, Transform and Load (ETL) developers.</i></p> <p>The window of experience has been increased from five to 10 years for this criterion.</p>	<p>2+ to 3 years = 2 points 3+ to 4 years = 4 points 4+ to 5 years = 6 points 5+ to 6 years = 8 points 6+ years = 10 points</p>				
R6	<p>The bidder should incorporate environmental practices into their on-going IT related business activities.</p> <p>Examples could include:</p> <ul style="list-style-type: none"> Electronic Distribution of documents / deliverables; Conduct meetings via telephone, 	<p>One point will be awarded for each environmental practice incorporated by the company into on-going IT related business activities to a maximum of 5 points.</p>				



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#	Point Rated Criteria	Scoring	Bidder self score	Bidder Response and Self Score (explain how points are obtained and reference location in proposal)	CBSA Project Authority Scoring and comments - Column to be filled in by the CBSA Project Authority only Score**	Comments**
	<p>teleconference, and/or video conferencing in order to minimize travel requirements;</p> <ul style="list-style-type: none"> Use of properties with environmental ratings. <p>Note: DO NOT SUBMIT YOUR ENVIRONMENTAL PLAN. A one or two paragraph summary will suffice. 150 words max per paragraph.</p>					
R7	<p>Points will be awarded where each proposed resource has experience within the last 10 years shredding XML data into non-XML data types in a relational database using the XML stages in DataStage.</p>	<p>3+ to 6 months = 2 points 9+ to 9 months = 6 points 9+ months = 10 points</p>				
	Total # of points - 73					
	Pass mark = 70% or 51 points					

Annex A - Statement of Work

1. TITLE

One Technology Architect, Level 3, to assist with the Commercial (E-Manifest) initiative.

2. BACKGROUND

The Canada Border Services Agency (CBSA) Technical Authority requires the services of 3 Technology Architects for the Data Warehouse Services team for support and development of the Agency's Data Warehouse program. The Technology Architect will be responsible for developing and maintaining the Agency Data Warehouse's architecture, frameworks and strategies as they apply to Extract, Transform and Load (ETL), in order to ensure a robust and sustainable ETL environment within the overall Data Warehouse environment.

3. SCOPE OF WORK

IT Professional services will be required for a period of one year from the date of contract with the option to extend for one additional 1-year period.

4. TASKS

- 1) Develop technical architectures, frameworks and strategies to meet the business and application requirements for a large scale data warehousing initiative in an ETL environment.
- 2) Identify the policies and requirements that drive out a particular solution.
- 3) Ensures the integration of all aspects of technology solutions.
- 4) Perform impact analysis of technology changes.
- 5) Provide support to applications and/or technical support teams in the proper application of existing infrastructure.
- 6) Review application and program design or technical infrastructure design to ensure adherence to standards and to recommend performance improvements.
- 7) Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation.
- 8) Manage the development and implementation of an architectural improvement plan (strategic architecture plan for warehouse).
- 9) Ensure ETL technical alignment amongst CBSA major projects for Data Warehouse.
- 10) Develop ETL best practices, standards, templates and methodologies in a Datastage environment.
- 11) Implement Configuration Management controls to ensure quality and supportability of the resulting Data Warehouse (DW)/Data Management (DM) environments while adhering to the Iterative Methodology.
- 12) Review Business Intelligence (BI) client requirements
- 13) Define and assist with ETL tool installation, configuration and integration strategies.
- 14) Automate data feeds from external third party sources outside the CBSA organization as required;
- 15) Participate in the design, development and testing of ETL jobs, scripts and routines.
- 16) Develop the ETL requirements and formulate the ETL architecture;
- 17) Knowledge of IBM WebSphereDataStage product line, used within a Data Warehouse and Business intelligence environment.
- 18) Knowledge of DataStage ETL frameworks and architectures for large scale data warehousing;
Specialties Include: IBM DataStage, UDB/DB2
- 19) Participate in ERWin model reviews
- 20) Shred XML Data into relational tables using DataStage.
- 21) Coach, mentor and train ETL designers and developers to perform any of the above.

5. TECHNICAL ENVIRONMENT

- 1) IBM Ascential WebSphere Datastage
- 2) IBM Information Server suite (Information Analyzer, Metadata Workbench, Business Glossary)
- 3) IBM DB2 RDBMS. (Relational Database Management System)
- 4) Unix
- 5) ERWin Data Modeler, IBM IDA
- 6) IBM Pure Data

6. CLIENT SUPPORT

The CBSA Data Warehouse Services team will provide an appropriate workspace with access to the appropriate tools for the resources to carry out the expectations set out in this SOW.

The contractor will be provided with a CBSA user ID, password, workstation or laptop, email address, and other materials (supporting documentation) as required in order to process, store, and/or transmit CBSA data on the CBSA network during the contract. The use of contractor IT systems is not permitted.

7. DELIVERABLES

- a) Develop and maintain an integrated ETL architecture;
- b) Develop detailed development plans;
- c) Develop and maintain ETL guidelines including best practices, templates and standards;
- d) Perform code walkthroughs;
- e) Develop ETL specifications and ETL design diagrams;
- f) Define ETL metadata capture solution;
- g) Define primary and secondary data captures strategies for internal and external data sources;
- h) Provide impact documents which include detailed technical tasks to be completed *as well as* level of effort required to complete these tasks, assumptions and dependencies;
- i) Provide Option Analysis documents as requested by technical authority;
- j) Provide advice to developers and designers;

8. CONSTRAINTS

At no time and in no way is CBSA data to be removed from CBSA sites, nor will access to or from the contractor's IT systems through the use of a session or ling (e.g VPN) be permitted.

The contractor must comply with CBSA internal security policies, directives, standards, and guidelines at all times during the contract.

9. REPORTING REQUIREMENTS

Timesheets are to be provided weekly or monthly depicting hours worked on a daily basis.

10. WORK LOCATION

All work will be performed in the National Capital Region on-site at CBSA offices.
The Primary Office location is 333 North River Rd Ottawa, Ontario.